DOCUMENT RESUME

ED 439 582 EF 005 402

AUTHOR	Martin, Deborah, Ed.; Lucas, Bill, Ed.; Titman, Wendy, Ed.; Hayward, Siobhan, Ed.
TITLE	The Challenge of the Urban School Site.
INSTITUTION	Learning through Landscape Trust, Winchester (England).
SPONS AGENCY	Environment Dept., London (England).
ISBN	ISBN-1-872865-16-X
PUB DATE	1996-00-00
NOTE	115p.; Colored photographs may not reproduce clearly. Support also provided by BT and the Wates Foundation.
AVAILABLE FROM	The Green Brick Road, 429 Danforth Ave., Ste. 408, Toronto, Ontario, Canada M4K 1P1 ($20). Tel: 800-473-3638 (Toll Free); Web site: http://www.bookstore.cee-one.org.
PUB TYPE	Collected Works - General (020) -- Guides - Non-Classroom (055) -- Reports - Descriptive (141)
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	*Educational Facilities Improvement; Elementary Secondary Education; Foreign Countries; Guidelines; Public Schools; School Security; Social Life; Student School Relationship; *Urban Schools
IDENTIFIERS	Curriculum Management; *School Yards

ABSTRACT

This guidebook provides information on improving urban school grounds in the United Kingdom to enhance children's lives. Chapters provide the experiences from other schools on the topics of greening the urban school grounds; the multi-cultural aspects of developing urban school grounds; organization of limited space; issues involving seating, shelter, and raised structures; and playground art. The unique difficulties involved in secondary school ground development are addressed in the areas of curriculum linkage, social needs, and the management and organization of change. Additionally discussed are areas of special consideration in urban school grounds development, such as vandalism prevention, school security, tarmac removal, and new surface installation. Resource information is provided, along with a list of schools and their locations which have created winning grounds development schemes. The chapters are: "Greening Urban School Grounds" (Nerys Jones); "Multi-Cultural Aspects of Developing Urban School Grounds" (Judy Ling Wong); "Organisation of Limited Space" (Liz Russell); "Seating, Shelter and Raised Structure" (Liz Russell and Joan Wood); "Art in the Playground" (Carol Kenna); "Secondary Schools" (Liz Russell); and "Practical Advice" (Liz Russell). (GR)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 439 582

THE CHALLENGE OF THE URBAN SCHOOL SITE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

G. Blight

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

EF 005 402

BEST COPY AVAILABLE

THE CHALLENGE OF THE URBAN SCHOOL SITE

Learning through
LANDSCAPES

First published 1996 by Learning through Landscapes.
Third Floor, Southside Offices, The Law Courts, Winchester, Hants SO23 9DL
Telephone 01962 846258

Edited by Deborah Martin, Bill Lucas, Wendy Titman and Siobhan Hayward
Designed by Steve Morrall
Printed and bound by Optimum Litho Ltd, Winchester.
© 1996 Learning through Landscapes
All rights reserved.

ISBN 1 872865 16 X
A catalogue record for this book is available from the British Library.

Acknowledgements

Photographs by Ben Leach, David Woodfall, National Urban Forestry Unit, Chris Baines, Merrist Wood College. All other photographs by Learning Through Landscapes, especially Clare Read.

Learning through Landscapes is very grateful to BT for its generous support over the past three years and to the Wates Foundation for additional help towards LTL's work with urban schools.

Learning through Landscapes is supported by the Department of the Environment under its Environmental Action Fund. Printed on paper made from sugar-cane pulp, a sustainable resource.

Foreword 2

1 **Introduction** 3

2 **Greening Urban School Grounds** 7

Nerys Jones, Executive Director, National Urban Forestry Unit

Sandfield Primary School, Guildford 12

George Spicer Primary School, London 18

3 **Multi-cultural Aspects of Developing Urban School Grounds** 22

Judy Ling Wong, Director, Black Environment Network

St Werburgh's Park Nursery School, Bristol 31

Park Place Nursery School, Dundee 35

4 **Organisation of Limited Space** 39

Liz Russell, Learning through Landscapes

Dunalley Primary School, Cheltenham 48

Stanley Grove Infant School, Manchester 53

5 **Seating, Shelter and Raised Structures** 57

Liz Russell and Joan Wood, Learning through Landscapes

The Clare School, Norfolk 64

Hyde Infant School, London 67

6 **Art in the Playground** 71

Carol Kenna, Greenwich Mural Workshop

Hardwick Junior School, Derby 78

Victoria Park Infant School, Bristol 82

7 **Secondary Schools** 86

Liz Russell, Learning through Landscapes

Golden Hillock Community School, Birmingham 91

8 **Practical Advice** 95

Dealing with Vandalism 95

Removing Tarmac *Merrist Wood College* 99

9 **Where to go next: Sources of Help and Information** 104

10 **BT/LTL Urban Challenge Winners** 108

Foreword

I can remember most vividly a large horse chestnut tree, the boughs of which bent low over my Junior School wall and shed their soft blossom in the Spring playgound and a rich pallet of leaves to cover the cracked tarmac in Autumn. I can remember being the first one in that playground and discovering a firework rocket on November 6th. I can remember how it smelled, and Duncan Somebodyorother stealing it from me. I can remember the circular drain in the corner which we used for a peculiar game of marbles where the dynamic flexing of 'rules' led to many sour words and scuffles over 'blood alleys', 'greenies' and 'eyes'. The texture and colour of the new toilet walls, a sixties splattered concrete stucco, still tingles in my fingertips. Much later I recall gazing awestruck into a song thrush's nest for the first time, hidden in an elder bush behind the smashed-up bike sheds where the big boys went smoking. The thrushes were apparently invisible to those outlaws, no doubt safe in a smog of cigarette smoke, they fledged four out of five young.

These facets of my childhood environment were however scavenged from the bland landscapes of my school's minimalist concrete practicality. They strayed over the walls, where the wastelands were not yet developed and there were functional artefacts which only our imaginations made special. Perhaps this doesn't matter. Perhaps all childhood's hunger for experience leads to any environmental investigation. Perhaps all the kids out there will find infinity in a grain of sand and heaven in a wild flower. But what if there is no sand and there are no wild flowers? Then, in these furious days of super-stimuli where imagination can only be silicon chipped, the school grounds could be a featureless desert where memories are not made but murdered.

Learning through Landscapes' exciting and varied application of environmental enhancement has already enriched thousands of children's school days. With the increasing support of public and private sponsorship and the involvement of agencies such as English Nature and the Countryside Commission, as well as a wide spectrum of community and environmental organisations, this charity is gearing to make dramatic improvements to playgrounds all over the UK. Sometimes it may not take much to start the process of development - a leaf, a drain, a more interesting toilet wall! I have no doubt Learning through Landscapes will offer more - perhaps even a space for a thrush to raise her brood.

Chris Packham

CHAPTER 1

Introduction

This book is about improving the quality of children's lives. It is also about improving school grounds. The philosophy behind it is that the two are inextricably linked. Since embarking on development schemes, many schools have discovered just how important their environment is in terms of the effects on pupils' lives. The aim of this book is to share some of these experiences, both to encourage other schools wishing to develop their grounds and to celebrate what has been achieved.

The Learning through Landscapes Trust (LTL) was established in 1990 to promote improvements to the environmental quality and educational use of school grounds. To do this, Learning through Landscapes:

- provides information and advice to those involved in school grounds development;
- produces publications to meet the needs of all those involved in school grounds development and use;
- raises resources for innovative projects which help schools to implement changes;
- carries out research to ensure that it is constantly able to give out the best advice;
- runs a range of training courses, especially for headteachers, and works with other training organisations;
- runs a number of membership schemes;
- strives to ensure that the issue of school grounds is at the top of the agenda for educationalists and environmentalists.

The BT/LTL Urban Challenge has been run since its launch in October 1992. The challenge seeks to encourage the improvement of school grounds in urban areas. Any project for improving school grounds for environmental, educational, aesthetic or recreational activities is eligible. To date over 1,000 schools have taken part, with an excellent overall standard of entry. The entries have demonstrated imagination, creativity and remarkable ingenuity in dealing with the problems posed by urban school sites. The case studies which appear in this book, featuring some of the winning schemes, illustrate how much schools can do to enrich the quality of their environment, to improve the curriculum use of the grounds and to overcome the negative effects of sterile and asphalt spaces on children's attitudes and behaviour. By following the holistic approach encouraged by LTL and by actively involving pupils in the process of change, the schools which have taken part in this campaign have embarked on successful and sustainable long-term developments which are unique to their school and meet the needs of their whole school community. Moreover the examples serve to prove that there is a direct link between the design and management of school grounds and pupils' behaviour, and to remind us all of the importance of fun and happiness!

An imaginative approach to school grounds development puts children in touch with their environment.

Wildlife areas and ponds provide opportunities for children to make exciting discoveries about the natural world.

9

BEFORE:
Strip of tarmac in need of development.

AFTER:
Alley now developed into secret play area for infants.

CHAPTER 2

Greening Urban School Grounds

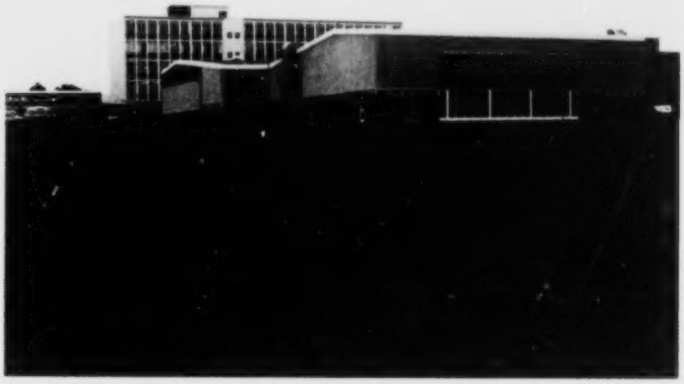
Nerys Jones, Executive Director, National Urban Forestry Unit

School grounds should be sheltered and stimulating, but all too often they are bleak and boring. However, even the bleakest site can be transformed by the introduction of a planned programme of greening.

Substantial greening can bring all kinds of benefits. Some are physical: a dense belt of trees and shrubs around an exposed playground or playing field can shelter children from the wind, and the leaves can filter dust and chemical pollution from the air, so a green and leafy school is healthier and more comfortable. Even the impact of noise from nearby roads can be reduced. Although there may be little real reduction in the decibel levels, there seems no doubt that hiding the moving traffic has a psychological calming effect. A greener setting for the school is more attractive too. It helps enhance the look of the neighbourhood and this in turn helps boost the self-esteem of teachers and pupils.

Greenery can make the school grounds much more interesting. If chosen carefully, the trees, shrubs and flowers can serve as habitats for birds, butterflies and other wildlife. The simple changing of the seasons can be emphasised by Spring blossom, Summer fruits and Autumn leaves, and an ever-changing landscape offers endless scope for teaching and learning. As a bonus, more trees and shrubs mean less grass to mow and that in turn cuts maintenance costs.

A green transformation of school grounds can be carried out quickly, cheaply and effectively, but it must be thoroughly well planned if its success is to be sustained. Listed overleaf are a few essentials to consider.



Close mown grass is more costly to maintain and is less attractive than shelter belts of trees, for example.

Bold planting of small, vigorous species is the best way to establish an 'urban forest'. These are alder, planted at 1 metre tall just three years earlier.

Consultation

Involve as many people as possible in the process of change. Begin by discussing ideas with the grounds maintenance people, since their co-operation is vital. A misplaced mower can wipe out a whole term's woodland planting work.

Discuss the educational use of the new landscape before the changes are made. Is there a need for a classroom-sized outdoor space? Who will use the pond? Are there teaching advantages in staggering the work over several years, to show how long it takes for plants to grow? Do subject specialists in the school have particular requirements, such as space for displaying art or a spot that allows views of distant features of the neighbouring landscape? Would there be value in growing plants for food, as well as ornament or wildlife? A greening scheme shaped by real requirements is more likely to be well looked after in the long term.

Wider links

Consider the wider community. Can the school grounds provide a safe playing space for children after hours? Is there a way of breaking down the boundaries, or alternatively, is there a need to improve security? Are there ways of linking into local landscape features such as ancient hedgerows, groups of old trees, streams or nearby parks?

Using existing assets

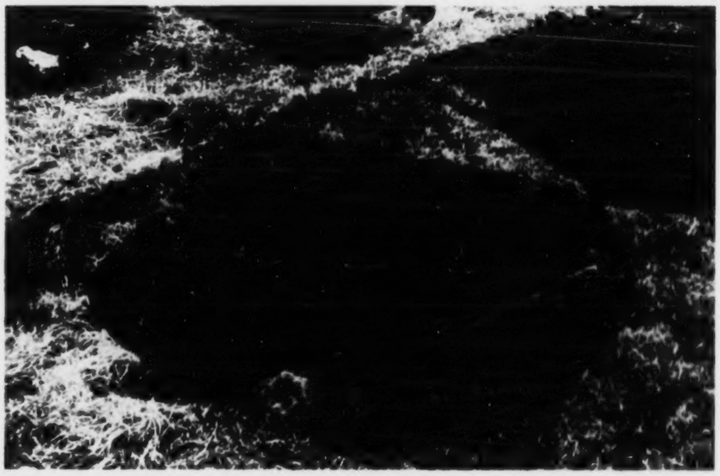
Work with whatever you've got. If the school is surrounded by walls and tarmac, grow climbers up the vertical features and break up the tarmac surface but leave it in place as it is an ideal medium for growing silver birch, buddleia and colourful annual wild flowers.

If you are lucky enough to have mature trees, underplant them with shrubs, pile up dead logs, introduce shade-loving wild flowers and spread a thick carpet of rotting leaves and you will create a mini-woodland habitat. If all you have is grassland, manage some of it as a wild flower meadow simply by mowing less frequently and harvesting the hay. Provide shelter by planting trees and shrubs around the edges.

A stream or a pond is priceless. The addition of a paved bank on at least one side will make it accessible to children so that pond dipping can be carried out safely. The pond's visibility to playground supervisors will also need to be considered, particularly where very young children are concerned.

Going with the grain

A lot can be achieved by working *with* nature. It is possible to make school landscapes much more green and interesting without the need to plant at all. If grass is left uncut, soil is cultivated or tarmac is ripped and crushed, then nature will move in to occupy the space. The process of plant invasion and natural regeneration can produce wonderful new landscapes, given time. (Just look at all the former railway shunting yards now covered in woodland, or the abandoned gravel pits where wild plants have moved in.) If you have ample space it is well worth setting aside a corner of the school grounds where this natural process of colonisation can be encouraged and closely observed.



Planting small stock, cutting off the side shoots, drenching the roots with water and 'mulching' to prevent competing weed growth - all these techniques are advisable if the trees are to establish successfully.

If planting *is* planned, the golden rule is to keep it simple. Begin by planting young seedlings in bold blocks of just one or two 'pioneer' species which will grow quickly, cope with the bleak conditions and create the sheltered setting for more complex later planting. It's hard to improve on thick belts of silver birch and alder, with a few wild cherries for their blossom, rowans for their berries, and elderberries for their scented flowers, purple fruits and impressive ability to recover from wear and tear.

Involvement

Always make a planting a whole school activity. That gives everyone a personal investment in the scheme. Label the features in your landscape with the date and the names of the plants, and where possible give every individual planter the chance to tie a personal label on a tree. Always take photographs to start the process of monitoring the emerging landscape.

Ongoing aftercare is useful in lots of ways. Tasks such as monitoring growth, removing litter and watering during drought all help to improve success rates, increase learning and strengthen 'ownership'.

Securing long-term care

Maintenance is essential. School grounds all over the country can be found with bone-dry ponds, litter-strewn woodlands and weed-infested butterfly gardens. A simple management plan is vital to both establishment and long-term success, and the work needs to be broken down into class-sized tasks. Picking up litter, sweeping leaves, pulling up weeds, pruning branches, thinning trees, building habitat piles, replacing failures, watering seedlings: all these tasks can be a part of the learning process and they will make all the difference to the survival of the scheme.

The results

A school will benefit from successful greening in a host of ways. The setting will be more attractive, richer in wildlife, more stimulating and more sheltered. There will be enhanced scope for outdoor environmental education and endless opportunities for all the children to play their part in shaping their surroundings. This will promote a healthy respect for the natural world. But there will be more subtle benefits too – in team working, personal achievement, community contribution. Greening can help lay the foundations for a life-long personal involvement with the natural environment on which we all depend.

Existing mature trees are a great asset in the urban forest. Here pupils are gathering acorns from amongst the leaf litter to plant in their new school woodland.

Sandfield Primary School

Developing an idea

Sandfield School was built in 1901 and is situated near the centre of Guildford. Before the greening project was started, the two Victorian buildings that comprise the school stood in a walled, tarmac playground. In contrast, the school buildings were attractive inside and provided a stimulating environment for the children. The project was initiated in 1989 because, when the children were sent out to play, they were asked to leave pleasant indoor surroundings to go into a barren, tarmac playground. It was noticeable that, once outside, the children's behaviour was poor and there was a lot of aggression.

Jackie Mitchell, the headteacher, felt that it was vital to improve the outside environment and she instigated discussions with the children, staff and governors. Right from the beginning the children were involved in developing the grounds. They were asked for ideas on how to improve the playground and they drew pictures and wrote about the things they would like to have. Not surprisingly everyone wanted grass to play on. So, with the support of parents and governors, the project was set up under the name 'Playgreen', chosen by one of the children.

Merrist Wood, a local agricultural college, was approached for advice and the college offered to carry out major work as part of the students' field experience if the school would pay for materials. This permitted development on a larger scale than would otherwise have been possible.

Since there was much to do the project was implemented in manageable phases. Each phase consisted of a major development by Merrist Wood students and smaller but equally important changes carried out by parents, staff and children.

Phase 1 – Spring / Summer 1990

The first step was to dig up and remove a large area of tarmac; then top soil was brought in and two areas of grass created. A sloping area of grass along the side of one building was laid out for the children to sit on. A shrub border was planted against a boundary wall and separated from another grass area by a stepping stone path leading to a large circular sandpit. Various trees have since been planted to provide shade in the Summer and to attract birds.

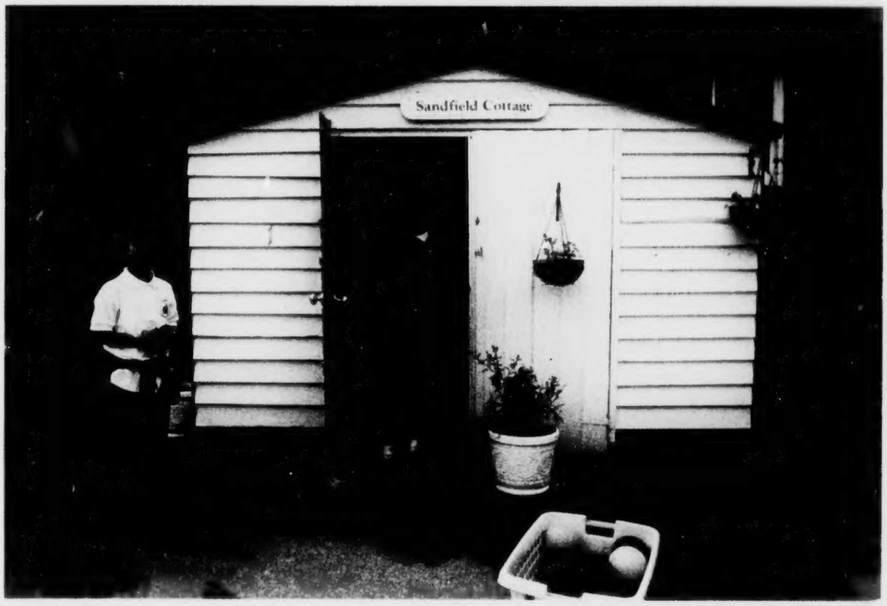
At the same time doors, benches and railings were painted green to improve the overall look of the playground. Parents bought a shed and painted and furnished it to make 'Sandfield Cottage'. All these developments meant that phase one provided the children with choices about the type of activity they wanted to take part in. This is very much a play area: children can build camps and hide in the bushes, roll or sit on the grass and all ages enjoy the sand. The cottage affords opportunities for role-play.

During the first phase of the project a shrub border was created along one of the boundary walls and a circular sandpit constructed.

Phase 2 – Summer 1991

Continuing the play theme, parents bought and erected goal posts and some 'play-o-caves' which provide opportunities for physical activities. Bats, balls, hoops and skipping ropes were also purchased to extend the choice of activities. With the help of staff, children planted tubs and hanging baskets to add colour and soften the hard lines of the walls.

Meanwhile Merrist Wood students designed and built a chequerboard garden, consisting of twenty-six planting squares alternated with paving slabs and surrounded by shrubs and a curved wall. This area has provided



'Sandfield Cottage' provides shelter in the playground as well as opportunities for role-play and other activities.

a challenge for the school. Initially it was planted with vegetables, annuals and herbaceous plants, but more recently herbs have been planted and it is hoped that these will be easier to manage. Larger paving slabs would have provided more room for children to stand on when working in the garden and this should be borne in mind by anyone considering this type of garden. Children in Year 2 are responsible for planting, weeding and watering the chequerboard garden.

Phase 3 – Autumn 1992

A major part of this phase was the painting of a sea mural on part of the boundary wall. This was carried out by local art students, using designs drawn by the children. To go with the mural Merrist Wood students built a beach area complete with sand, breakwaters and a 'wrecked' rowing boat. This part of the site has been designed as a place for children to sit, either on the patio under the shade of the pergola or on the small lawn.

Parents have developed this area further by planting meadow grass and wild flowers. An area of tarmac has been removed – with parents providing the manpower – and turned into a vegetable patch which Year 1 children sow and harvest. A path leads to a log pit which is home to a variety of mini-beasts and bird boxes have been put up on the walls. The area is intended to extend the children's learning environment.

A chequerboard garden provides children with first-hand experience of plants.

Phase 4 – Summer 1993

The next stage of development involved a working party of parents, governors, children and staff who spent several days developing an area for the youngest children. This includes a patio inset with coloured slabs and bordered by raised beds. There is a small lawn, a playhouse and flower-beds. It is also planned to build a stage and paint road markings on the tarmac. Reception children sow seeds in the raised beds and are able to observe the flowers and vegetables growing.

Free-standing tubs are planted and cared for by the children.

Phase 5 – Summer 1994

The BT/LTL Urban Challenge award was put towards developing a pond and a bog garden. An area of playground behind the building, which had previously been out of bounds, has been developed into a 'secret garden'. An ex-student from Merrist Wood College designed and constructed a raised semi-circular pond, beds of different heights, a bog garden and a pergola. Since the area is secluded it is hoped that when it is planted many varieties of wildlife will be attracted there. It will be a valuable learning resource and has transformed an ugly corner into somewhere special.

Maintenance

Each year group in the school takes responsibility for a specific area of the playground and the children are becoming increasingly aware of the different zones. A gardening club held after school has proved extremely popular with the children and also helps with the maintenance of the planted areas. All the weeding, mowing and pruning which the children cannot manage is carried out by the caretaker, while parents come in to water plants during the holidays and help with mowing.

In the 'secret garden' is a raised semi-circular pond where pupils can observe aquatic life and practise pond dipping.

Playgreen and the curriculum

The use of the outside classroom for curriculum work is constantly being monitored and a scheme of work is being planned to ensure continuity and progression from Reception to Year 6. Some of the ways in which the playground has been used as part of curriculum work include the following:

Science – pond-dipping, looking at variety of life forms, life cycles, growth, habitats, decay, shadows, soil types.

Geography – basic map skills, routes, plans, compass work.

History – the development of Playgreen, changes, use of Playgreen books, photographs and plans.

Mathematics – data handling, comparisons, sets, measurement, estimation, shape, pattern.

English – providing a stimulus for poetry, creative writing, research, discussion.

R.E. and P.S.E. – care of the environment, taking responsibility, sharing our crops.

P.E. – games and athletics skills, treasure hunts, orienteering.

Art – observational drawing and painting, work with fibres, clay, dyeing using plants (nettles, beetroot), colour shades and variations, reflections.

Science is much more interesting when there are real plants to study!

Has it all been worthwhile?

The Playgreen project continues to evolve; there are still areas to develop and as the school's needs change some parts may need redevelopment. One aspect to be explored further is the use of playground markings and it is also hoped to improve the school entrance. Many things have been learnt by experience and trial and error. Throughout the project, however, the staff have continued to be enthusiastic about developing their playground which they feel has become an extension of the learning environment. Along with this has come a marked improvement in the children's behaviour now that they have surroundings which offer opportunities for so many activities.

Advice to other schools

- One difficulty that has arisen with having a small area of grass is that it suffers from wear and tear, especially when the weather is very wet or very dry. If playtime activity is concentrated in a small area it may be wise to consider an alternative surface. However, if grass is a significant element for the children, there are a variety of erosion control systems using geotextiles or turf reinforcement which could be tried.
- A hard surface, rather than grass, around a sandpit makes it easier to sweep the sand back in. A raised edge to the sandpit can be an obstacle to this. It is worthwhile purchasing a sandpit cover to keep out cats and other animals when the sandpit is not in use.
- In planted areas, paving slabs should be large enough for children to stand on when working in the garden.

George Spicer Primary School

Situated in the outer London Borough of Enfield, the school is an imposing Edwardian building surrounded by asphalt playgrounds. Some attempt had been made to improve the external environment in 1991 when a mural was painted in the infant playground. This was organised by a school governor and painted by students from Middlesex University who incorporated the children's ideas and drawings in their design. But it was not until the local authority demolished some outside toilets and storage huts that the opportunity arose to make significant changes to the school grounds.

The children expressed their views on their outdoor environment by filling in a questionnaire and writing about their ideal playground. In response to this staff were able to draw up plans to develop a quiet area which would contain a raised garden, a pond, tables and seating, and a tree which would eventually provide shade.

Putting ideas into action

Now that the idea had taken shape the practical matter of raising funds had to be tackled. It was decided to define the quiet area by building two L-shaped walls and the school committed £500 towards this. At that stage the school submitted an entry to the BT/LTL Urban Challenge and it was this award which enabled them to turn their plans into reality.

Planting with flowers and shrubs has transformed what was once a bleak playground.

In the event the money went further than anticipated because the builder they approached, who had children in the school, organised a group of volunteers to build the raised garden as a gift to the school. Another parent, who has subsequently become the chief gardener, visited local nurseries and persuaded them to support the school's efforts. By July 1993 a long border and the raised garden had been planted. The pond was thriving with plants and water creatures, even a visiting dragonfly had been spotted. Britvic/Schweppes donated parasols which provided welcome shade over the newly acquired picnic benches. The roof of an old air-raid shelter in the grounds has been allowed to grow wild to attract insects and bulbs have been planted around it. In September a semi-mature Norway Maple was planted and the first phase of the plan was complete.

The texture and smell of leaves can be examined at close range when trees and shrubs are planted in the school grounds.

Everyone was delighted with the improvements, but inevitably they highlighted the bleakness of other areas of the environment, especially the infant playground. Since this playground doubles as a car park for the Professional Development Centre (PDC) in the evenings and is also used by lorries delivering to the school and the PDC, it was not possible to take up very much of the surface area. Instead it was decided to introduce container-grown shrubs and climbers, troughs and planters and hanging baskets. It was also recognised that there was a need for infant-sized seating.

To fund the next stage of the project the school appealed to the local business community for support, sending out details of the proposals and asking for any help they felt able to offer. Approximately £500 was raised, most of it in small donations, and this enabled the school to buy

Multi-use markings and plants in containers have improved the infant playground, while still allowing it to be used by vehicles out of school hours.

and plant containers, troughs and hanging baskets. The PTA then raised the funds needed to complete the project by the purchase of a picnic table and seating – this eye-catching feature is in the form of a railway engine and carriage. All this has transformed what was once a barren environment and the infants are very proud of their improved play area.

Management and curriculum links

As the project has developed the staff have been aware of the need to ensure its long-term survival. Responsiblity for overseeing the whole area has been added to the job descriptions of the management team. The care of the plants is undertaken by a group of parents and it is hoped that this will continue in the future.

The children are involved as much as possible in all aspects of the greening process. They have worked in small groups with the parents, planting and identifying the plants using reference books. Year 4 children carried out a full site survey and the environmental changes are frequently the subject of class discussions and assemblies.

The children's first-hand observation of the environmental changes has been used to support several curriculum areas. In geography it has been linked with making maps and plans; in science they have been able to observe plant and animal cycles; in art observational drawings have been made, and numerous language activities have been devised. The development of the playground also supports the hidden curriculum and reinforces the positive approach of the school's behaviour policy.

Looking to the future

One major area remaining in need of development is the front of the school. This is still bleak and unattractive in contrast to the developments in the rest of the grounds. Since this is the 'public face' of the school, staff feel that by creating a more inviting entrance they will be making a positive statement about the school's relationship with the community and their desire to add to the quality of the local environment. Their intention is to create a rockery, with a number of taller shrubs as features and flowers for colour. The front of the school is also the place where parents wait to pick up their children so it is planned to construct some seating for them.

Of course further developments require further fund-raising so the school is trying to identify other sources of funding. This is always one of the most demanding aspects of any project, as is finding time to articulate aims and proposals and present them clearly, but they are hopeful of achieving their goals. The success of the development already undertaken is a great encouragement in pressing on, as is the interest shown by other schools. The consensus is that the project has been successful because they did not attempt too much at any one time, but the cumulative effect is undoubtedly impressive.

The railway engine picnic table and seating is very popular with the children!

CHAPTER 3

Multi-cultural Aspects of Developing Urban School Grounds

JUDY LING WONG, DIRECTOR, BLACK ENVIRONMENT NETWORK

Multi-culturalism as a concept

I used to run Chinese festivals in Primary schools. When approaching schools to gain their interest, I was struck by many of the replies. *'We do not need a Chinese festival in our school. We don't have any Chinese or other ethnic minority children here. We have no problems.'*

It is sad that in many instances the concept of multi-culturalism has been brought into the limelight because of the significant proportion of ethnic minority children in particular schools. Multi-culturalism is not just for the benefit of children whose country of origin is not Britain. It is a central concept which recognises that everyone on this earth is interdependent and increasingly important to one another. In one sense, the presence of a multi-cultural dimension in school grounds is even more important in areas with no ethnic minority community for if there is no opportunity for direct contact with other cultures, the significance of multi-cultural activities may not have been seriously considered.

There are several facets to incorporating multi-cultural ideas into the development of school grounds.

- To undo the harm that has been done in the non-recognition of the presence of other cultures.
- To bring forward the missing contribution of other cultures and therefore to benefit fully from the richness and relevance of inter-cultural exchange.
- To be aware of ourselves as participants working towards an integrated world and to recognise that the outlook and behaviour of each of us affects the future of the world and therefore changes our lives.
- To recognise the essential role of the school in promoting multi-culturalism within the school community and in particular the contribution this makes to the challenge to racism.
- To recognise the role a school grounds project can play in encouraging the full participation of the whole school community and providing a catalyst for community action beyond the school.

School grounds can be a powerful symbol of the way in which we see children's role within the world. We send out messages as to who we think they are or are not, who they can be or may never be, through our manipulation of the elements within the grounds. In schools with ethnic minority children, multi-cultural elements within the school grounds provide a setting which enables children from ethnic minorities to see themselves as full members of a multi-cultural community instead of alien survivors in an exclusive world. In schools without pupils from ethnic minorities, children are enabled to see themselves as growing up within one of the many cultures in a multi-cultural Britain. One little school in the country, in an all-white area, took the view that contact with other cultures was an important part of growing up. It twinned itself with an inner-city school which had ethnic minority children and ran exchange days. Children spent whole days learning together in each other's schools.

There are many ideas that can be developed in a multi-cultural context and the following examples are among those which have been tried by a variety of schools.

A wildlife garden often contains plants from the countries of origin of the children in the school and demonstrates the multi-cultural origins of the English garden.

Cultural gardens

One of the most successful projects initiated by the Black Environment Network is the cultural garden, a garden with plants representing the countries of origin of the children in a school. It provides a vital recognition of presence for many children and acts as a springboard for further multi-cultural projects in the school and the community.

One of the most important aspects of this project is that it explodes the myth of the English garden. A horticulturist said recently, *'If only the English knew - an English garden is nothing more than a collection of glorified foreign weeds!'* Indeed, a significant result of the planting of the first cultural garden at Walnut Tree Walk School in London was that children came back to school saying, *'I have Japanese plants in my garden!'* or *'I've seen African plants all over the neighbourhood.'* They began to notice the diversity of origin of the plants around them and discovered that many of the natural features they had come across had been multi-cultural all the time. Tulips in window boxes or on traffic islands, so famous for being Dutch, came from Turkey. Red hot pokers, glowing in front gardens, come from Southern Africa. Indian bean trees stand against the Houses of Parliament. Every rose that flowers more than once in Summer has at some time been crossed with a Chinese rose in order to acquire the quality called perpetual flowering. Columbines, whose origin cannot be traced, grow in every country across the temperate latitudes. Honeysuckle from Japan trails over fences, spectacular African daisies fill hanging baskets . . . . It was just that until now the children didn't know of the plants' origins.

Park Place Nursery School in Dundee worked for nine months to convert a flat grass area into a world garden set on different levels and including paths, trees, shrubs and a rockery. There are Scottish, South American, Chinese, Malaysian and Middle Eastern areas. They have also focused on the senses as a them: bulbs were selected for colour, herbs were put in for taste, and prickly areas planned for touch. An artist was brought in to work with the children to develop ideas for a welcoming gate. The whole project did not just change the feeling within the school community: people who stop to admire the school say that the whole street has changed.

The multi-cultural theme can extend to indoor plants, making a link with the plants within children's homes if they do not have the privilege of seeing gardens. In fact there is no such thing as an 'indoor' plant. Most house plant books will tell you where your plants come from and this can be an exciting discovery. For instance, we find that the rubber plant comes from Malaysia; there, one plant can grow to look like a veritable forest. The spider plant comes from Africa. The Yucca is from Mexico. Cacti put us in touch with the deserts. Many other plants provide a link with the rainforests of the world because they grow in the shadow of the huge trees, the quality which allows them to survive in our indoor environment.

Short-term projects such as seasonal hanging baskets or herb, bulb or vegetable gardens allow direct involvement through activity. For instance, they could enable different classes to own small areas throughout the year. A school in Birmingham was able to get Asian parents involved for the first time through a herb garden project. On this occasion, the Asian parents were the experts and they were able to help the school with planting expertise. The final highlight was a demonstration of the use of the herbs in cooking and a talk on medicinal uses. Such school grounds projects as this can initiate new relationships between ethnic minority parents and the school.

Looking at plants

Projects can be based on the endless roles of plants. In various forms, plants from all over the world come into our daily lives, as imported food, as the base for essential medicines, as religious and cultural symbols, and as components in clothing, tools or furniture. Alongside all that is the issue of how people in different parts of the world work to make all these items to clothe us, feed us, and so on. All this can help to generate ideas for features in the school grounds. It also means that implementing the multi-cultural dimension of school grounds development can be integrated into the whole curriculum, from planning through to ongoing activities.

One school found an unusual multi-cultural aspect of developing their grounds. In order to have a meadow they had to take steps to reduce the fertility of the soil before planting. They did this by planting wheat for two years, then for the harvesting they borrowed old hand implements from the local museum. Many old farming implements are very similar throughout the world so the Punjabi grandparents of some of the pupils were able to show them how to use the implements to harvest the wheat. They also taught them the names of the implements in Punjabi. The common aspects of farming between different cultures were absorbed in a very practical way and new relationships were built between people. Common ground was found between different cultures and across the generations.

Nature conservation and animals

Visits to nature reserves can promote an understanding of nature conservation issues. More ambitious schools may aim to build up relationships with conservation projects overseas. Twinning with projects in different areas of this country or other countries can be an exciting long-term activity. One example is a school which has a special relationship with a National Trust property with beautiful woods. Another is the Friends of Vrindavan Project in Leicester which links schoolchildren to a planting and conservation project in India.

In the bleak concrete and tarmac settings of the inner city, plants in the school grounds become the vital link to the natural environment. The long-term presence of plants, both native British species and those from different parts of the world, can mean shrubs or trees landscaped into the school grounds or, for schools with very little space, climbers grown in narrow beds to transform fences and walls or plants in tubs or flower-beds.

You might want to consider keeping small animals in the school grounds. Children need to learn about the care and love of animals and can be allowed to take them home during the holidays. This will also provide opportunities for discovering where the animals come from. There are beautiful angora rabbits from Turkey, for example.

Movement and migration

A theme such as movement of plants can echo the movement of people. If you ask for a list of plants for a British wildlife garden from an environmental organisation, you will inevitably find the 'butterfly' bush (Buddleia) listed. Its origins, however, are Chinese but it has become so much part of the ecology of Britain that it is often regarded as a native. Literally, here is a Chinese plant with a British passport!

Why not study the journeys of migratory birds and incorporate them in a mural? In South Africa people see British swallows escaping Winter in the African warmth. Or should we say that in Britain we see African swallows coming to Britain in Spring?

Playground features

Well-planned playground features can bring focus and meaning into the grounds. Hardwick Junior School in Derby designed a welcoming entrance with a colourful sign in which all the languages in the school were represented. This involved the children and their families and friends in researching ideas for playground markings. The dramatic changes to the playground are described in the booklet they have produced with the aim of sharing their experience with other schools. They have also made a sourcebook of games from around the world that children can use during playtime. Another school aims to build a giant abacus and make each bead into a globe with particular countries highlighted in colour.

Painted games can brighten up dull tarmac. Murals can transform inside and outside walls. If you choose themes that make links with ways of life these can play an important part in the symbolic recognition of the contribution of different cultures. They can be used as backdrops for plays or poetry readings. Certain areas can be planned with enough seating for a class so that they become outdoor classrooms with specific settings.

Murals are ideal ways of highlighting the contributions of different cultures to our lives. This rainforest mural provides a lively backdrop for children's activities.

Traditions and festivals

Research can be carried out into festivals from different cultures which can then be incorporated into the school calendar over several years and the school grounds used as a setting for the celebrations. As we look at the traditions of different cultures we should not forget that we can invent our own festivals. Ways of thinking about nature in different traditions can be very inspiring. For example, this saying is attributed to Chief Seattle, an indigenous North American: '*What is man without the beasts? If all the beasts were gone, man would die from great loneliness of spirit, for whatever happens to the beast also happens to the man. All things are connected.*' Sayings such as this can be written on small plaques and set into a flower-bed or at the foot of a tree from a particular country.

Pupils enact a dragon dance as part of a multi-cultural celebration.

School and neighbourhood

Projects that begin in school can extend into the community and may even transform the community's life and environment. The school is one of the most obvious centres for the focus of ideas and opportunities in the local neighbourhood and remains a resource yet to be fully developed for exploring the potential of children's lives. But many schools find that, with the best will in the world, they are limited by their space. And although they can provide a stimulating environment within the school, for the children the everyday world of school finishes at half-past three and life begins. Do the children then find themselves outside the school gates and back in a barren environment? The true meaning of positive change is the integration of the potential for development both within and beyond the school, so that the child experiences a continuity of positive change. An example of this ethos can be seen in a school in Ireland which, having no space to speak of in terms of school grounds, identified some waste land locally. They asked for permission to adopt the land and created a beautiful school garden beyond their gates. In a similar enterprise, the local authority in Southwark is creating a multi-cultural area in its parkland.

Thinking of the school grounds as a springboard for activities and linking up with the local community becomes a powerful basis for transforming children's lives. This is where networking with organisations such as Black Environment Network (BEN) can provide greater support. A school does not need to take on the transformation of the whole neighbourhood. It can initiate the idea through the school community and then put in contact with BEN any interested people who may wish to take on community projects. BEN can facilitate the formation of new community groups and keep them in touch with current ideas. It also provides information on grants and contacts where expertise is needed for projects involving the school and the community either within or beyond the school grounds.

A multi-lingual sign welcomes visitors to the school, whatever their first language.

Maintenance and maintaining enthusiasm

Successful maintenance of a project often depends to an extent on the concept around which the school grounds are designed. There will always be elements which need expert care, so a maintenance budget must allow for contracting out where necessary. Alternatively, if the school aims to acquire expert skills, initial training of responsible persons needs to be planned for and provision made for passing on the skills as parents or staff move on.

The process of overall planning and the inclusion of elements of a particular character – a bed of Asian herbs, for instance - can help to build up the sense of ownership by specific groups (in this case Asian parents) and stimulate involvement in maintenance. Those who are involved in the initial overall planning of the site will inevitably be the ones who feel that what results is truly theirs. Therefore, as far as is possible, one should take the time and make efforts to involve the whole school community. It is also important that the plan consciously allows for elements which are specifically short-term projects. These will give repeated opportunities for input into planning new projects and the constant change will continually stimulate new relationships within the established format of the grounds. For example, certain areas of the grounds can be planned so that children move through the ownership of each area as they grow through the school. Even with successful and beautiful areas, there comes a time for remembering how the process of working through a project has benefited everyone, and making a case for starting again. A beautiful mural may very well make way for another beautiful mural.

In conclusion

Are you having fun? Are you enjoying claiming your heritage to the cultures of the world? Along with all the learning and the hard work is the contact with interesting and wonderful people. As teachers or parents we may make the discovery of how much a small child knows that we do not. We may be about to collapse in a heap and then we find the energy to carry on when a child says to us, *'This is great fun. Can we do it every Saturday morning?'* We find out how vitally we can all be in touch with a remarkable world of diverse cultures and environments. Multi-culturalism takes us into an adventure. It's a joy!

I am reminded of two families from China who helped at Park Place Nursery School during the school's world garden project. They had never gardened and did not have a garden in China. At the end of the morning one mother announced, *'The garden is finished'*, to be told by the other, *'No, a garden is never finished'*. This was taken on as the school's 'Ancient Chinese saying' - *'Ah yes, a garden is never finished.'*

St Werburgh's Park Nursery School

The school

St Werburgh's Park is the largest nursery school in Avon, with 155 children in attendance. Many come from disadvantaged backgrounds, and from minority ethnic groups. The area, on the edge of St Paul's, is a typical inner-city locality with very little green space. The school's outdoor environment was of poor quality with few if any facilities and both staff and some of the parents had expressed concern about the playground. A programme of inside refurbishment had just been finished and the highscope method of working was well-established. (This method allows children to choose from a range of activities and to move from one activity to another as they wish.) With the inside environment settled and productive it was time to look at the outside area. The approach was to take a holistic view, which reflected the highscope way of working and which aimed to integrate the grounds into the curriculum.

A master plan was drawn up to provide a framework for the project and included a variety of features: wildlife/environmental area, 'alerting the senses' garden, area for wheeled toys, problem-solving area, creative area, physical development structure, imaginative play area and sand area. From the outset it was intended that all areas would incorporate social development and multi-cultural aspects and would involve the community.

The project takes shape

Starting in the Autumn of 1991, the first stages to be tackled were the wildlife garden, a wildflower meadow and mini orchard, a smell/taste garden and children's digging area.

After winning a BT/LTL Urban Challenge Award the school went on to complete the physical play structure, a ceramic wall mural and a sight area (which includes tubs and pots planted with different coloured plants, free-standing windmills, playground markings and two big decorated mirrors).

In the 'sight area' there are free-standing windmills, coloured playground markings and plants with different coloured flowers.

The organisation of the garden into areas reflects the structure of the classrooms: children can choose to spend time in a particular part of the garden, such as the 'sounds' area, in the same way that they would inside. There are resource boxes with information and ideas for specific activities in the garden; these can be used by adults or shared by adults with children. Staff have also set up 'topic webs', some of which centre on the garden, while some include it as an integral part of a topic such as 'journeys' or 'water'. The next step is to produce a formal set of curriculum documents.

A ceramic mural celebrates the range of cultures represented in the school.

Organising the work

The whole school is involved in the project, with one member of staff appointed to the post of Garden Co-ordinator. Each class takes responsibility for a particular area of the garden: they keep an eye on it, add to and develop it if they wish. In this way the whole staff can participate and feel a sense of ownership. There is a rota for outside supervision which works on a weekly basis; this ensures that when the children are outside an adult is present in each area to supervise safety, participate and help with any difficulties.

Governors and parents are also involved. Both groups have assisted with weekend 'working parties' to get specific jobs done. The school has devised a garden notice-board containing up-to-date information, photographs and 'invitations' to help. The notices are always in several languages, such as Punjabi, for parents who have English as a second language. The main difficulty with parental involvement arises from the fact that, as a nursery school, St Werburgh's has a one-year turnover. This means that many parents do not get as involved as they might. However, the multi-cultural theme of the planting has been a significant factor in drawing in parents of different cultural backgrounds.

Weekend working parties involve parents and older brothers and sisters in various tasks in the garden.

Throughout the development of the project the children have been consulted about what they would like and what they think about the garden. For instance, they were asked what elements they would like incorporated into the climbing structure. They have also been involved in some aspects of the implementation of the project. A local ceramics artist, working on a mural for the garden, spent time running workshops in each class and incorporated the children's own work and designs into the finished mural.

All grant awards and donations are channelled into a 'garden fund', along with the proceeds of fund-raising events. The school has obtained financial support for the project from a number of charitable and commercial sources and was able to draw on the advice and expertise of the former local branch of the Groundwork Trust. Most of the maintenance of the grounds is carried out by staff, with help from parents. The local authority cuts the grass and provides a tree maintenance service when necessary.

The results

The garden has become an integral part of school life, providing unique opportunities for children to have first-hand experiences of exploration and learning. A stimulating, attractive and exciting playground means that the children's environmental awareness is greatly enhanced. They are also keen to help in recycling school meal waste and in planting, watering and looking after the garden.

Just as important, the children have a lot of fun being in the garden. Particularly successful areas are the 'sounds' area, the children's digging area and the pond. Staff use the garden as a learning environment for 'group times' as well as a place for reading stories and playing games. In fact the range of activities and associated discussions is extensive and includes designing and making bridges, shape-work, and projects on mini-beasts, frogs and growing, along with many other aspects of formal and informal curriculum work.

A key aspect of the project has been to try to reflect the multi-cultural nature of the community. Multi-lingual signs have been provided for each area of the garden, all made by a local ceramics artist. The multi-cultural theme has been carried over to the planting which includes material associated with Asian and Caribbean cultures. This has helped to integrate the school more fully into the community. Families from different ethnic groups can see their own cultures contributing to the rich and varied life of the school.

Staff are in no doubt that the development of the garden has had a clear effect on the children's behaviour and happiness. A bleak, grey area has been turned into a garden that is attractive and full of learning opportunities. It has helped to foster positive play and the children show pride in their playground.

In the 'sounds area' some wind chimes have been constructed.

Park Place Nursery School

An idea takes root

Park Place Nursery School is situated in the centre of Dundee, bounded by the University, an area of housing and the inner ring road. At the beginning of the 1991/92 session, at a Parents' Group committee meeting, the subject of the entrance area was raised. This area consisted of an eight-foot-high wall with dark gates, a stretch of flat grass and a line of paving slabs. It was not at all welcoming for young children. It was suggested that at the least some planting would be appropriate. One of the parents, who was an art lecturer, proposed that perhaps a piece of artwork could be considered. The project developed from that discussion.

As a first step the Nature Conservancy Council (now Scottish Natural Heritage in Scotland) was contacted for information about grants and an immediate application was recommended. Sketch plans were discussed with the staff and parents and duly submitted. This forced everyone to think seriously about exactly what was wanted. A professional artist was consulted and a phased programme of work was set out, to be completed over a period of three years.

With nearly a third of the children speaking English as a second language it was decided to make multi-culturalism a key feature of the project and the idea of a 'world garden' was conceived. It was also agreed that the children and the local community should be involved as much as possible in order to give them a sense of ownership and responsibility for their environment.

The world garden was designed to reflect the multi-cultural make-up of the school. The children have been closely involved in its development and upkeep.

Planning and budgeting

The grant from the Nature Conservancy Council enabled the garden to be started, and the BT/LTL Urban Challenge award then formed the basis for raising the funds needed for the gate and the wall. Through contacts with a local College of Art a freelance artist was engaged to develop design ideas and he began to hold a series of workshops with the children. Meanwhile the headteacher wrote a large number of letters and applications for money, with varying degrees of success. The Scottish Arts Council and Scottish Enterprise Tayside were particularly generous. A separate bank account and set of accounts were set up for the project so that it did not become a drain on the main school fund. The main fund would be available to pay for such items as workshops or seeds for planting but would not donate sums of money directly. The raising of funds was probably the most demanding aspect of the project, the staff felt.

The project developed in three stages. The headteacher was the main co-ordinator and the enthusiasm of staff and parents increased as results became apparent. Many parents, unable to help during the day, were quite happy to go into the school on Saturdays. In fact, for a period of six weeks, the artist, the headteacher and a number of parents spent every Saturday morning working with children from the local area. This proved to be very successful and was enjoyed by all, though it was recognised that it could only work for a limited period.

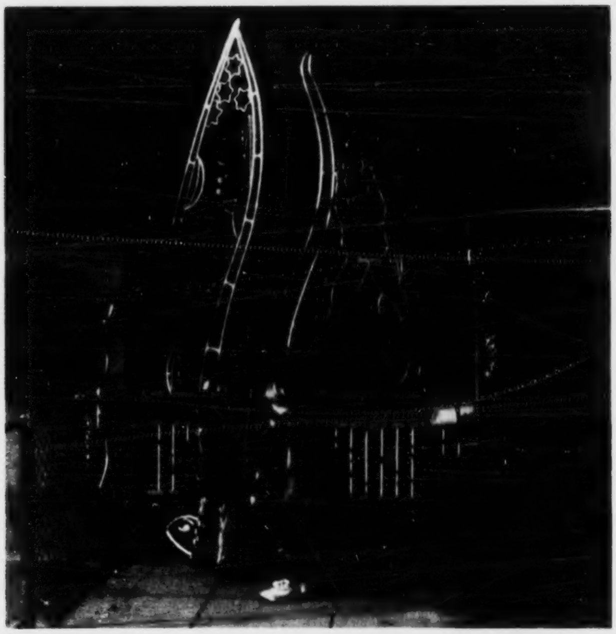
Everyone involved was consulted at all stages. The children delivered letters to every house and shop adjoining or overlooking the site and this resulted in donations of plants and help and promises to stand 'Neighbourhood Watch' over the site.

Getting down to work

Work on the ground progressed well as staff and parents cleared the site, set out paths and wooden edging, built the maze, planted trees and shrubs, laid paving slabs and weeded. A team from the Scottish Wildlife Trust worked with the children, planting trees and a wildflower meadow.

The creation of the world garden, the major theme of the project, involved all the children and parents from the different cultures represented in the school. The scheme included Scottish, South American, Chinese, Malaysian and Middle Eastern gardens.

The artist worked with the children through the planning stages to produce the finished design for the gates and the wall, though the end product was executed by the artist himself. Instead of a blank wall facing visitors to the school there is now an exciting three-dimensional skyline of the city, while the wrought-iron gates contain children's profiles. All the work that was done in the garden involved children, whether the nursery school children during school hours or, out of hours, other children of parents who were helping. Even children from the immediate area who appeared out of curiosity to see what was happening were persuaded to become involved!



The brightly painted wrought-iron gates make an eye-catching feature at the entrance to the school.

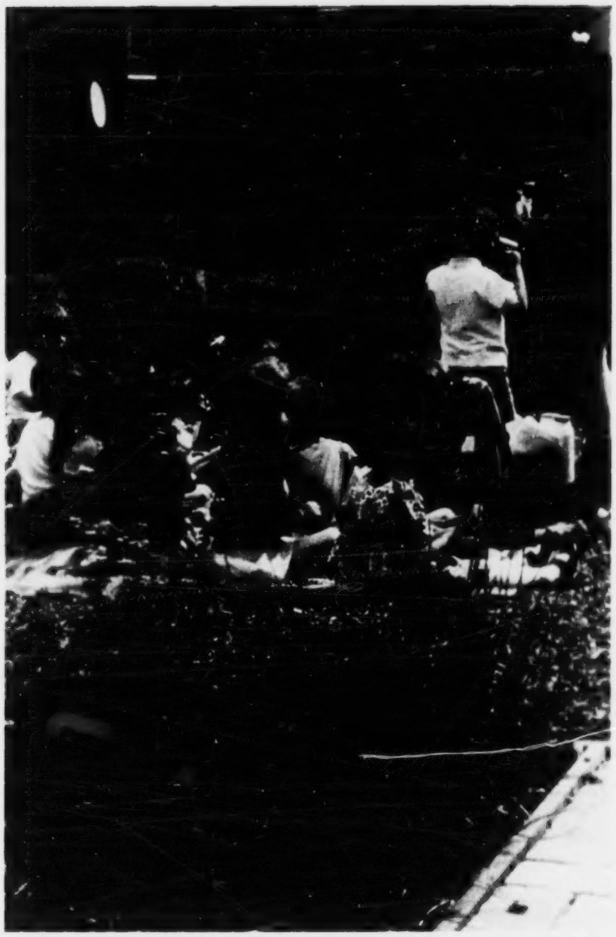
The idea comes to fruition

The project was completed in June 1994 and an official opening ceremony by the Convenor of the Education Committee of Tayside Regional Council was attended by most of those who had been involved. The completed project was enthusiastically received by the Director of Education and members of the Education Department and had excellent coverage in the local press. At a later date the Council's Director of Property visited the school and was so interested and impressed that he brought a number of councillors to visit this example of 'self help'.

The image of the whole street has changed, locating the nursery school positively within the built environment. Children from the primary school come to visit on the way home, and passers-by stop to admire. The entrance to the school is now welcoming and happy, emphasising the philosophy of the school – that 'education is fun'. In addition the multi-cultural ethos of the school has been highlighted through the gardens which represent different parts of the world.

Since the nursery school curriculum is activity based and revolves around learning through play, the garden provides a practical resource for everyday use. Both long-term and daily planning are likely to include specific tasks to be undertaken in the garden in all the main curriculum areas. The art project in particular supported expressive arts activities, raising awareness of art as a part of everyday life. The multi-cultural aspect of the garden, too, has contributed to personal and social development, creating an atmosphere in which children can learn how to work together and value each other's cultures and ways of life.

The school grounds now provide a resource for outdoor activities and a pleasant environment for a lunchtime picnic.



Advice to other schools

- The importance of the range of cultures represented in the school community needs to be recognised and included in any development project.
- Parents of different cultures have a wide range of experience and their advice can be invaluable in planning multi-cultural aspects of the project.
- Organisations such as the Black Environment Network should be consulted for information about different cultures.
- As much help is needed in the organisation and administration as in the practical work. Those who are not keen on taking part in the physical work may be able to support in other ways. A committee, with specific roles assigned, would have been advantageous but in a nursery school difficult to implement as parents change every year.

CHAPTER 4

Organisation of Limited Space

Liz Russell, Learning through Landscapes

For urban schools in particular lack of space is often a problem. With large numbers of children on a confined site the careful development and management of the school's outdoor space is especially important. Many schools have been amazingly creative and resourceful, and have provided a wide range of activities and opportunities which have encouraged positive social behaviour as well as stimulating and imaginative pursuits.

> *'Our playground is a park now.'* Holly, aged six, Hyde Infant School
>
> *'I can't choose what to do at playtime. I like everything best.'* Priya, aged five, Hyde Infant School

In most cases the solution has been some form of zoning in the grounds, where specific areas have been identified and developed for certain types of activities or age groups. On a small site this form of management can produce several benefits. A variety of activities can be provided in clearly defined areas and this can reduce conflicts of use. It also introduces the element of choice in a small area, and encourages the use of the whole site, so that pupils are not concentrated in one or two areas only. Greater visual interest can also be created both by the materials used to define the various areas and by the variety of activities and opportunities provided.

Identifying needs

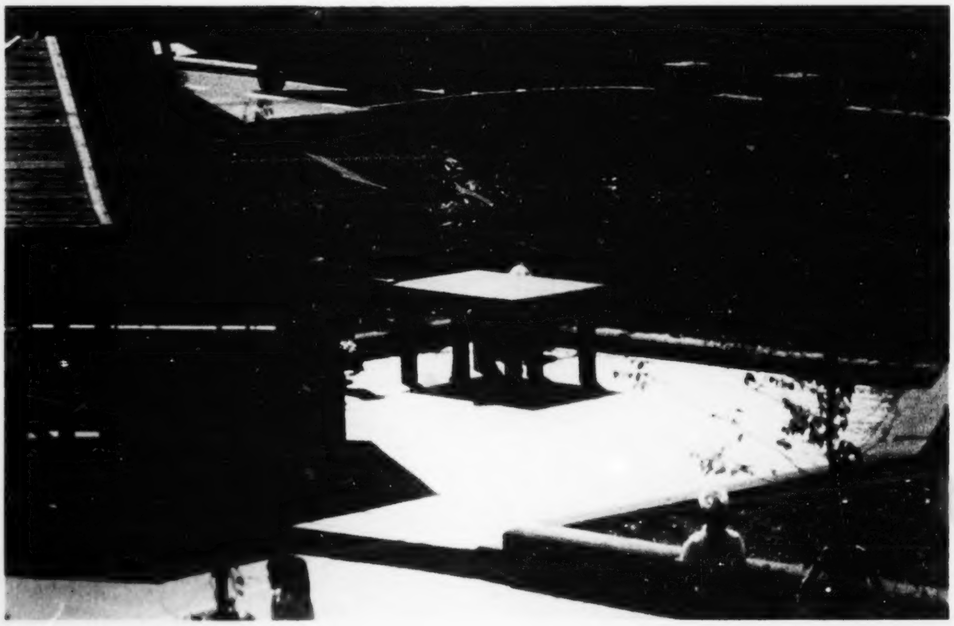
Because space is at a premium it is important to start by looking at the whole site and clarifying as much as possible the existing and potential uses of the space and the needs of the whole school community – pupils, staff, parents, and the wider community. It is also important to identify where and why areas of conflict arise, since in many cases the management of space is a crucial factor in solving these problems. To ensure that any new development will be as comprehensive as possible a number of factors should be considered.

- Clarify the amount of space needed for different activities – for example, formal sport, informal games, class stories, group work.
- Look at the equipment or facilities needed to encourage positive play and curriculum use and the space they require.

- Identify pedestrian and vehicular routes across the site and assess their need.
- Look carefully at the physical demands of the site – for example, sunny, windy and shady areas, service runs, buildings and walls which might be adapted or removed.

In many cases areas can be developed for multiple use, for both formal and informal activities.

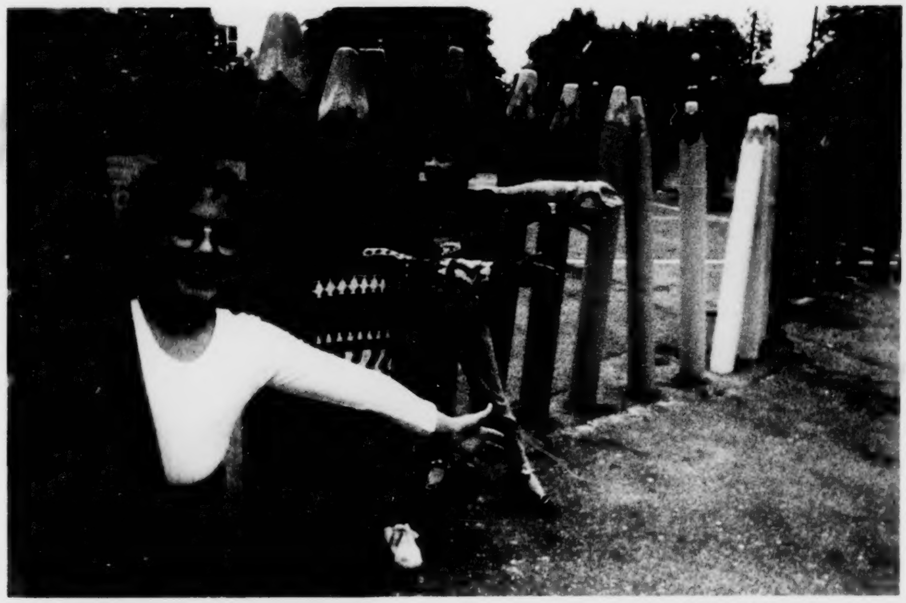
It is particularly important that all of the grounds should be accessible to the pupils when space is limited. This may raise implications for supervision or staggered use which need to be considered. In particular, the significance of the way in which the informal curriculum is managed cannot be overstated. There are a number of key issues which arise with regularity in the case studies and schools generally: one such issue is the role, the number and the training of supervisors. Some schools, in clarifying the purpose and aims of the informal curriculum, have found it necessary to change the job descriptions of their dinnertime supervisors or, alternatively, to help them develop confidence, skills and abilities through training. Others have increased the number of supervisors employed, recognising that a higher ratio of staff to children extends the opportunity for more positive interaction with the children. Some schools have employed playworkers, learning support assistants or staff from the local leisure centre.



Changes of level, raised planting beds and simple structures can all help to define areas for different uses and maximise the space available.

The experience of schools which have developed sites with limited space has produced a number of factors identified as important.

- Use the whole site. Even small areas have potential and many have become secret gardens, nature trails, quiet play spaces, a stage area or a defined area for nursery or reception children. They also provide ideal settings for scientific equipment, or art areas for active work, display purposes or interactive sculptures. Moordown St John's School in Bournemouth has turned a narrow space into a geology area, Sandfield Primary School in Guildford has used one narrow area for a vegetable patch and a log pit for mini-beasts, and George Spicer Primary in Enfield has developed the top of an air-raid shelter as a wild area.
- Use the existing shape of the site and existing changes of level to define areas if possible. Schools with natural divisions can enhance these by provision for a different use in each area, and changes in planting or paving can make these divisions more pronounced and give each space a different character. If a site layout or changes of level already define a variety of different spaces you may need to look at how these spaces link together and to identify which uses might be placed near each other and which need to be separated. It is also worth considering whether the areas will be defined by children's age or activities or a combination of both.
- If a single space needs to be broken up to define smaller areas there are a variety of means which can be considered. Walls, raised planting beds, planters arranged in lines or groups, pergolas, posts, bollards, ropes or chains, removable barriers, fences or planting might all be used. One ingenious solution is movable fencing panels which slot into a grid of sockets set in the tarmac and link together. These can be moved about the playground to create and define different areas as needed. At Dunalley Primary School in Cheltenham a 'green pathway' is being constructed across the site which will link different areas, offer a protected access route and separate active and quiet play areas. This will be created by a palisade of timber posts and adjacent planting which will curve across the playground, linking the conservation area at one end of the site with the grassy patch at the other end. The provision of sockets in the ground can allow poles to be erected for use as shadow poles, flag or banner poles, to hang wind socks or musical instruments, to support tents or other play structures or to create temporary barriers.

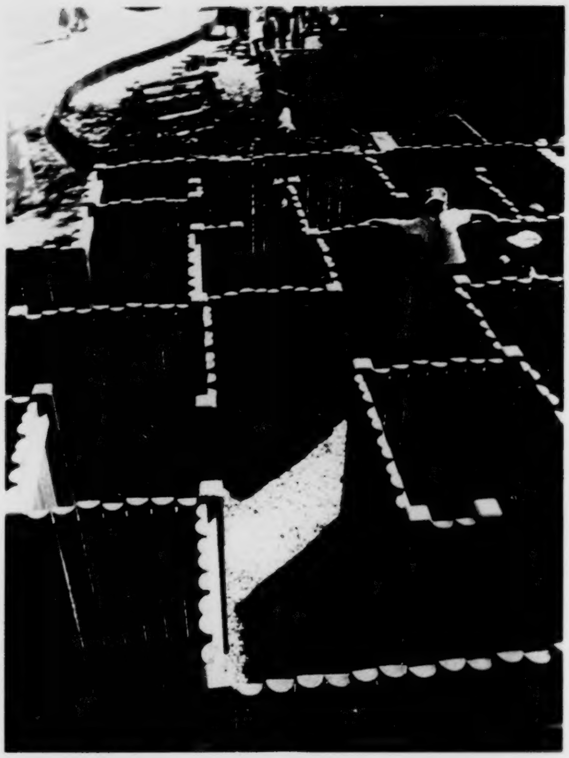


Sockets set into the playground mean that removable barriers can be created. With a little imagination the barrier itself can become a play feature.

- Use any existing buildings and walls creatively. Removing barriers may provide additional opportunities. Use redundant buildings as outdoor shelters, quiet areas or performing centres. If walls or buildings are removed it may be possible to keep and reuse the materials. Hyde Infant School in London has demolished some outside toilets to make room for a pets corner, and decorated an old cycle shed for use as a sheltered and shady area. At George Spicer School the demolition of some HORSA huts provided the opportunity to create a quiet green area which breaks up the large expanse of tarmac.
- To define areas you can use themes (St Werburgh's School in Bristol used a sensory theme with hearing, seeing, touching and smelling zones), curriculum areas, age divisions, type of activity (quiet or active) or a combination of all these things. Moordown's site has natural divisions and each space is being developed with clearly defined identities which include a variety of mazes, a geology area, an amphitheatre, quiet and active games, sitting and picnic areas, a trim trail, a tree house and different types of planting.

Other schools have zoned areas by age groups, with intermediate spaces in the middle where younger and older children can come together, and certain activity areas (pond, large sand pit, grassy mound) which can be used by all. Ponds which can be easily seen and used will be more highly valued by the pupils, but a barrier may be needed to stop younger children inadvertently running into them, and the health and safety aspects should be carefully considered.

It is important to involve the children in all these decisions: they usually have very clear ideas about the use of the site and the relationship of different areas. One example of this approach was used in a school which, because of limited space, needed to resolve the conflicting desires of some to play ball games whilst others sought peace and quiet. Presented with this problem the children produced a plan of the whole site and zoned different areas, listing the types of activities which they agreed could, and could not, take place in each area. The staff report that the system works better than any which they had previously tried to impose!

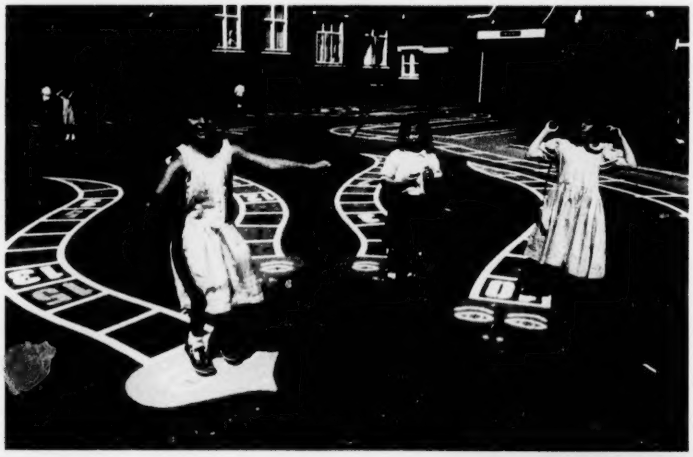


A maze does not need a large amount of space and it is always a popular feature with young children.

Playground markings and play equipment

If space is very limited it may be necessary to develop the perimeter areas and leave the central space clear for active games, large group use, such as outdoor performances or assemblies, or evening and weekend car parking. However, the needs of the pupils should be carefully considered and a variety of alternatives looked at before choosing to develop the site in this way. You may wish to ensure that the edge development is continuous, though not necessarily of even depth, and that the activities which are encouraged in these areas will be protected from the more robust activities which may take place in the centre of the site. Multi-use markings on the central area can extend the use of this space, as can the provision of small or loose play equipment. Several of the case studies include reference to loose equipment. A small research project commissioned by LTL in 1992 to monitor and evaluate the effect of the introduction of loose equipment during play and breaktime identified a number of key issues which should be considered.

- The quantity of items must relate to the number of potential users. Many schools have found it helpful to purchase a stock of items for each class.
- Involving pupils in the fund-raising and selection of stock can prove both educational and prudent and results in a greater degree of responsibility and care.
- The quality of the equipment is very important. Buying cheap is a false economy. If anything, such equipment needs to be even more robust than that used in a class.
- The organisation of equipment often works best where the pupils are given responsibility for putting it out and collecting it in. Storage is another important factor.
- Supervisors may need training and induction to ensure that they feel confident about safety issues and other concerns before the items are introduced.



Playground markings can be adapted to a range of activities and are particularly useful on a site that has to accommodate different requirements.

Cars Box
Cars Box

Loose play equipment is a versatile feature on confined sites, but it must be robust enough to stand up to frequent use.

In confined sites it is clearly prudent to consider items which don't involve a great deal of movement or space: hand puppets, hobby horses, dressing-up clothes, second-hand toy cars, dolls and books have been supplied in some schools. It may be helpful to consider changing equipment from time to time to maintain interest, and provision will need to be made for replacement as a result of wear and tear. Hyde Infant School in London is a good example of a school which has managed to provide a tremendous variety of activities to choose from on a very small site including games, books, chalk-boards, puppets, sand and construction toys.

Multi-use markings and the provision of a wide range of loose equipment will encourage diversity of activities and will mean that the pupils are distributed throughout all the available space rather than concentrated in one area. Equipment need not be expensive and many fixed structures can be built by parents; indeed, these are often the most successful and popular with the pupils. Structures which are non-specific and which lend themselves to a variety of imaginative uses will sustain the pupils' interest for much longer and stimulate more constructive play. Any schools considering such a project should consult their LEA and the appropriate British Standards so that they are aware of any relevant national legislation or local guidelines. They will also need to ensure the safety of all groups involved in both construction and usage. In confined sites, such equipment may occupy a considerable amount of precious space and it may be necessary to have a rota system to control the numbers using it. Other design elements and features with wider and more general use may be more cost effective.

The vertical dimension

Where space is limited vertical elements can become important features to provide colour, interest and greenery or to define smaller areas. Tall narrow structures such as pergolas, fences, panels or posts can be elements in their own right or can be used to support plants, and individual trees can provide a much needed natural feature as well as a strong vertical element in a flat space. Schools have used walls and fences for plants, murals, interactive sculptures or scientific features, ball games (basketball, marble run), finger mazes, chalk-boards or white-boards. Reflective surfaces can make spaces seem bigger and direct access to a room or rooms in the school building may create an indoor/outdoor space which extends the available area.

Coping with car parking

The issue of car parking on small sites is a problem which often arises and schools have found a number of solutions. Where cars must come on site, clearly defined parking areas with barriers separating these from the rest of the school seem essential. Some schools need parking space only at evenings and weekends, and in these cases careful development of the perimeter of the site and the provision of multi-use markings and small portable equipment means that a central area of the site can be kept free for this purpose. Some schools allow cars on site only at specific times (for example, 8.30-9.30 a.m. and 3-3.30 p.m.), thereby allowing use of the site by the school throughout the day. In some instances it may be that a close look at access and parking can result in a rearrangement of the site which allows the necessary vehicular access but provides more space for curriculum use.

Using outside expertise

In a number of schools a professional designer has worked with the pupils and staff to help them maximise their use of the site. Good results have been achieved when the staff and pupils in the school have identified their needs and wishes and the designer has worked flexibly with them to develop the site as a whole entity. This can be a long process, and care needs to be taken to ensure that developments are generated by the school and not imposed from outside if a genuine sense of pride and ownership are to result. In Moordown St John's School several professionals worked with the school to help them realise their ideas and to ensure that the various disparate areas of the site accommodated their needs. Alternatively, professional expertise may be used in the development of one specific feature, such as the pond area at Sandfield or the green pathway at Dunalley.

Managing the scheme

The maintenance and management of all new developments on a school site must be considered from the outset. It is important to identify both the time and the cost involved in maintaining any new resource, and to make sure that this is included in a budget, a maintenance plan or a job description, as appropriate, even if the sum or the labour are quite minimal. If pupils are going to be responsible for maintaining certain items or areas then the implications in terms of time and supervision need to be considered. Willing and enthusiastic parents and staff are a wonderful resource, but unfortunately circumstances are constantly changing and there needs to be some permanent structure of care which is independent of individuals.

A small site need not restrict schools in providing a rich and varied experience for their pupils in the grounds and a major resource for delivering the curriculum. The case studies in this book are excellent examples of this!

The smallest of spaces can be developed and used imaginatively.

Dunalley Primary School

Pushed to the limits

To many, Cheltenham conjures up an image of beautiful Regency buildings with elegant, formal parks and gardens. However, less than half a mile from the town centre and surrounded by a DIY store, a brewery and a very busy relief road is Dunalley County Primary School. The school buildings are mainly mid-Victorian and have not been enhanced by subsequent structures, most of them terrapins, which have been added over the years with little regard to sensible or attractive layout and which have eaten away at the playground space. Before the start of the project, the grounds were almost entirely of asphalt and the limitations of the playground led to conflicts and accidents and gave little scope for social interaction. A fenced-off conservation area had recently been turned into an attractive wildlife garden and now the school wanted to develop their grounds further by improving the playgrounds. The aim was to connect the conservation area to the rest of the grounds by removing the fence and creating a protected 'green pathway' which would run through the whole grounds. In addition, seating and play equipment would be provided.

The wildlife garden had been a joint project between the school, Whitbread, the neighbouring brewery, who generously donated £1000 and constructional labour, and the Landscape Architecture course at Cheltenham and Gloucester College of Higher Education, also neighbours, who donated staff and student expertise and labour. The same partnership would be involved in the playground project.

The pathway to change

When Dunalley School decided to enter the BT/LTL Urban Challenge the first step was to consult the whole school – teachers, pupils, parents and governors - about their ideas for developing the playgrounds. The message from the children came back loud and clear: *'Give us more flowers, trees, green areas, quiet seating areas, play equipment, and open up the wildlife garden!'*

In the event it was this plea from the children that provided the theme for the improvement scheme set out in the competition entry. The wildlife garden, the only green space in the school grounds, needed to be opened up and connected to the rest of the school. If the fence was removed then another way would need to be found to protect the garden from too much noise, disturbance and flying balls. As the children had pointed out the need for a quiet, protected area in the playground it seemed logical to connect the two and make a sweep of green protected pathway running right through the school. Eventually it was decided to use a 'palisade' of green-stained timber poles as the protective element for the 'green pathway'. A planting area would provide trees, climbers, bulbs and ground cover, extending the green of the wildlife garden through the whole grounds. Within the protected area, seating and plants would allow quiet pursuits to be undisturbed, while moving about the school would be easier and safer for everyone. Finally the wildlife garden could have an everyday impact on the children's lives.

Though space is limited, part of the school grounds is occupied by a wildlife garden which is linked to the playground by a green pathway.

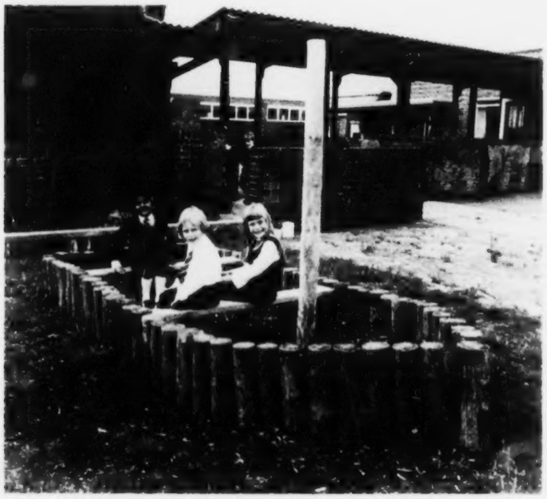
Organising the project

A management team was set up to co-ordinate and implement the project. This consisted of Keith Chapman, the headteacher, Kathryn Owen, a teacher, and Lorraine Mason, a parent and landscape architect student. As the project developed they approached Richard Sneasby, a lecturer in Landscape Architecture at the neighbouring College of Higher

Education, to advise them on the structure of the pathway. The management team consulted teachers and pupils, as well as parents and governors, at every stage of the project and their ideas were incorporated into the design.

Since the school won the award from LTL, there has been progress in implementing the plans. A number of developments have taken place, the work for which has been carried out by parents and staff.

- The wildlife garden has been opened up by lowering the wooden fence on the playground side so that the garden, while still remaining protected, is clearly visible to the children.
- An unsightly fence has been removed, making the entrance to the administration block and staffroom more welcoming and accessible.
- A ready-made playhouse has been purchased for the infant playground and it is already well used.
- Timber has been purchased and a 'playboat' and 'corral' have been constructed.



This simple but effective feature has proved popular with the children who can now go to 'sea' in the centre of Cheltenham!

Moving on

The management team is now planning the remaining part of the project. The first stage in creating the pathway will be to mark it out clearly on the ground. Next a machine will be hired to 'cut' the tarmac and then pour in ready-mixed concrete. In order to involve the children in this process each child in the school will make a 'hand print' which will later be filled in with coloured resin. There will thus be a pathway of linked hands as well as a 'green pathway'!

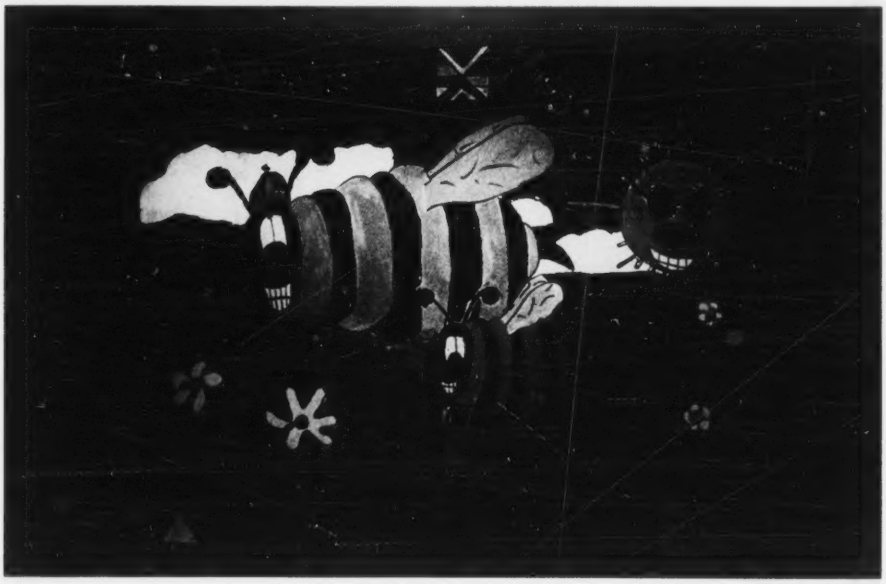
The next step will be to landscape one section at a time so as to cause as little disruption as possible (the playground is the only playing area). The landscaping will begin near the wildlife garden and continue gradually through the school grounds. The work will be carried out by parents, pupils, staff and students and it is hoped that the first section will be completed within six months.

The school intends to contact local firms to try to persuade them to donate materials or to offer substantial discounts. Each section will then be landscaped as funds permit. Plants have been offered by the employer of one of the parents.

During the next Spring term it is planned to create some large-scale collages to be painted on boards and positioned around the school site. The school is also working in partnership with some sculpture students and they hope to produce some sculptures to be placed in the quiet areas. The children will be involved in all these projects.

Results and reactions

So far the wildlife garden and the playground improvements have been very successful and are well used. Problems that have had to be tackled include the location of bins, making the school look welcoming and producing clear direction signs. It has been found that planters which create interest outside and colourful displays inside also help to make the school's environment more welcoming.



The school's design for a mural – when in place it will brighten up the playground.

The management team commented that in the early stages they spent very little money but a great deal of time and effort! However, the subsequent parts of the project will be more expensive even though they are trying to keep costs as low as possible. Landscape architecture students are interested in gaining 'hands-on' experience and will be welcomed, along with the core of very hard-working parents, and Whitbread's brewery has agreed to sponsor some of the work. With all these links within the community, which have been so vital to the project, the school feel confident of achieving their goal.

Above all, they are convinced from their experience so far that their hard work will have a positive effect on the children's behaviour and happiness.

Stanley Grove Infant School

Background to the project

Stanley Grove Infant School is set in urban central Manchester in an area of rich cultural and ethnic diversity. It has approximately 270 children between the ages of three and seven. The buildings vary from a large-scale Edwardian red-brick main building (also housing a Junior School) through inter-war prefabs to a modern nursery. The L-shaped tarmac playground is bounded on one side by a railway embankment.

In April 1991 the school was invited to take part in a local research project inspired by the Elton Report. The focus of this was the relationship between play provision and behaviour and whether better play opportunities might reduce levels of aggressive behaviour. The school was aware of playtime issues and it was acknowledged that little was provided for the children other than space. A significant number seemed to find it difficult to use the time constructively, happily or safely.

As a result of this project some small changes were made with varying levels of success and sustainability. The school became aware of the need to take a look at all the elements – site, children, parents, teachers, lunchtime organisers and the community – in a more holistic way. Through wider reading and awareness the staff also began to realise that the potential of the site as a learning resource was not being maximised. It was resolved to develop the playground in such a way as to make the most of the limited space to create an exciting outdoor classroom.

Organising the playground survey

Following the project launch meeting in January 1994 a steering group was set up representing a cross-section of parents, governors and staff (teaching and non-teaching). Through regular meetings this group looked at methods of gathering ecological and environmental data in enjoyable and exciting ways. They surveyed the school grounds using the Esso Schoolwatch survey and, since winning the award, have worked closely with a professional landscape consultant, Dave Anderson of Naturescape. They have also become aware of the need for closer working relationships with all members of the school community.

The difficulty of finding a suitable time for all members of the steering group to meet together was resolved to some extent by holding meetings alternately at lunchtimes and after school, with child care available when necessary. Notes of the meetings were circulated to people in the group, the Infant staffroom, the Infant headteacher, the Junior staffroom and Year 3 teachers whom it was hoped would be able to involve their children in the continuing work.

The group spent some time bringing Early Years expertise to the requirements of the survey, with input from the whole teaching staff. They felt it important that the work was done at a steady pace which the children could understand and take part in. They were also concerned not to overload teachers at times when their workload can already seem daunting.

> *'Miss! You've got your bug-hunting boots on. Are we going to the jungle again?'*

Children, teachers and parents made many forays into the school grounds, often into areas which had previously received little attention. The gathering of information had a variety of starting points and stimuli, sometimes including story or fantasy. Expression of the information gathered also took many forms, for example, models and collages, jigsaws, books, drama, artwork, graphs and plans.

At the end of each stage an assembly was organised and parents invited to attend. Children were able to share their work by talking about it and showing the results, enabling both children and parents to appreciate that they are part of a whole school project.

Creative maintenance in the long term is constantly part of the plan. At present, while major changes are still in the future, grounds maintenance continues to be carried out by the local authority's Direct Works Department. The school has, however, been prepared to experiment: part of the nursery grass was left unmown in the Summer and this revealed a wealth of information about plant and animal life, as well as offering different play opportunities for the children who spent some of their time 'swimming' in it!

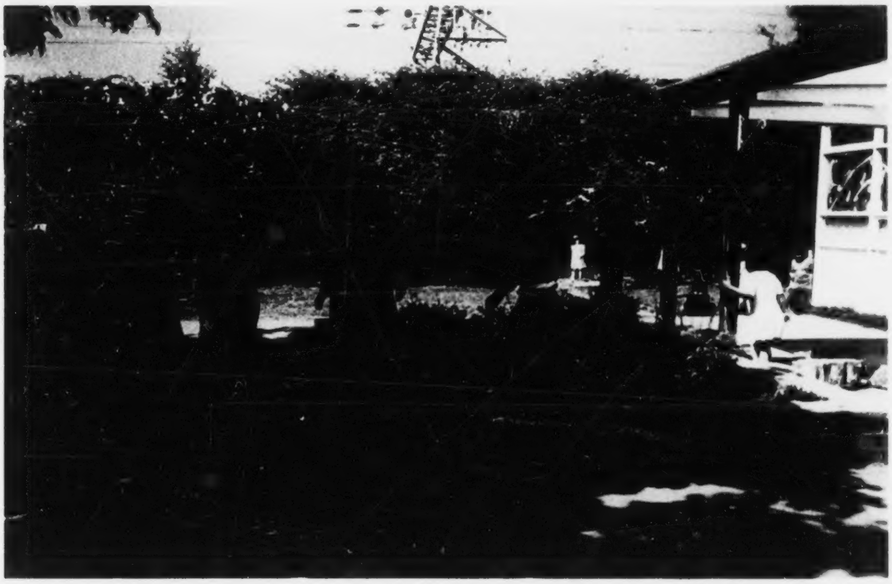
The information gathered from the playground survey formed the basis of art and model making activities and helped in the planning of new developments.

Curriculum uses

The school found that the survey provided numerous opportunities to enrich the curriculum. While the needs of the survey did not always fit in with the class topics there was a willingness in the whole school to do the survey thoroughly and teachers planned the work with all the care and imagination put into normal activities. The zoning of the site by the use of logs, raised beds and grassed areas has meant that the children have developed an understanding of the conditions necessary to support certain kinds of wildlife through the contrasting findings in different zones. They have used existing skills and developed new ones to present and record their findings. An awareness has been developed among teachers of the opportunities that outdoor teaching can bring and it is hoped that this will be built more formally into the design as the whole project develops. There have been lighter moments, too, as children have practised their skills of observation.

> *After a serious science discussion with new Reception children about the origin of the little 'helicopters' they had found in the playground, they were asked what kind of tree these seeds came from. 'A sick tree.' (Sycamore!) Recovering from this, the teacher asked the children what they thought these seeds might grow into, having fallen from the sycamore tree. 'Helicopters' came the reply!*

The school has continued to try to improve play opportunities by providing equipment at dinnertimes and by involving dinnertime organisers, though it is felt that well-thought-out major changes will need to come later: as a first step the point of the survey is to plan play and learning provision carefully.



The use of raised beds and planting has helped to define different areas within the playground.

Links with outside agencies

The school's main source of inspiration and support for the survey was Dave Anderson of Naturescape. They were also involved in a local project called Art in the Urban Environment, but nothing definite emerged from this so they are now planning a new art project, possibly playground seating.

Support has also come from an organisation called Projects Environment. While the work done with their representative, Ian Hunter, has not specifically been part of the survey it has enabled both adults and children to develop skills in outdoor education. The work has included planting a willow bed and a hazel hedge and sculpting the turf removed into a snake, as well as using a charcoal kiln. The whole school has enjoyed celebrations on the field which, as part of the Infant school, had been an under-used resource. It is hoped that the willow will prove an ongoing resource for art, science and technology.

Much of the school's work was displayed for international delegates at the Global Forum held in June 1994 and children took part in environmental art activities. Manchester Environmental Education Network has been initiated by staff at the school and now networks many schools and organisations in the area. One of the issues in which it supports educators is the development and full use of the outdoor environment.

Making progress

The steering group feel it might be a bit premature to make claims for the project as a whole since no major changes have yet taken place in the provision for play. They strongly believe, however, that, even if they had not won the LTL award, the exercise of collating the information and the discussions it generated throughout the school were instrumental in getting the project off the ground. In fact they had decided to employ a consultant and had set a date for the launch before they knew they had won the award. They are working on their discipline policy and have regular discussions with the children about behaviour and happiness. As the scheme progresses gradual improvements can be seen in playtime behaviour and a sense of community is being fostered through the sharing of enquiries and findings.

Advice to other schools

- It is helpful to set up a steering group representing as many groups as possible within the school. The steering group can organise surveys and then produce plans so that the best possible use is made of the limited space available.
- It is well worthwhile to make use of any expertise within the community or outside professional advice, so that the project can be tackled in a manageable, realistic way.
- The provision of play equipment at dinnertimes allows the space to be used in a flexible way.

CHAPTER 5

Seating, Shelter and Raised Structures

Liz Russell and Joan Wood, Learning through Landscapes

Pupils and staff alike identify seating and shelter as two vital elements in the provisions made in school grounds, and both these and raised structures can be used as positive design features on urban sites. All three of these components can help to create smaller areas, each with a different atmosphere or use, and can make the site visually more stimulating by introducing various materials, colours, textures and shapes. They can also be used to provide a variety of levels, both for practical purposes and as an extra visual dimension to break up the monotony of a flat site.

Two schools featured in this book, Clare Special School in Norwich and Victoria Park Infant School in an inner city part of Bristol, have plans to build raised platforms or walkways which will create new spaces. These will break up flat sites and provide the children with different viewpoints and perspectives. Victoria Park School has also used the natural slope in one corner of its site to create a small amphitheatre which provides both a formal performance area and informal seating and scope for imaginative play. Provided that these features are carefully planned and designed they can all encourage imaginative use in a non-directed way.

The physical benefits which these structural items can provide, include protection from the elements, areas for rest, talk or quiet activities, the stimulation and improvement of co-ordination skills, and physical activity. They can also encourage socialisation, between parents, for instance, or between parents and pupils, or among groups of pupils. In addition, they offer alternative classroom settings and encourage imaginative play. Planning and surveying the area and designing these items can be part of formal curriculum work, for example, mapping, measurement, language, design and technology tasks, art, investigating materials and even monitoring the weather. At Yardley Infant School in Birmingham all the work that has been carried out in developing the site has been linked to the National Curriculum and the pupils have been involved in every stage of the project. This has had great benefits in terms of increased knowledge, skills, enthusiasm and a sense of achievement.

Planning for flexible use

If space is restricted, it may be wise to have objects and features which allow a variety of uses. For instance, seats and shelters may also be used for imaginative play or physical activity and a flexible design will encourage this. Raised structures such as pergolas or screens introduce a vertical element which, if well planned and sited, can become a positive design feature. When planning, think of other uses to which a structure might be put. For example, if you have tables, chairs and a games box under a roofed structure this can become a picnic area, a quiet games area and a wet playtime corner. If you introduce a platform to this structure, you might also create a stage area. The raised pathway at Clare School has been designed to develop physical skills, encourage social interaction and allow the children new sensory experiences with plants and water. At the same time it provides a different viewpoint and a raised performing area, all resources which will contribute to the National Curriculum in a practical, relevant way. If a structure is designed so that things can be hung from it, or added to it, this may extend its use. Musical or scientific instruments, kites, banners, plants or backdrops for a dramatic production are all examples of easily added features.

The location of any of these structures is important since the choice of site may encourage additional activities which will increase their value to the school. It may be possible to extend the use of one object by placing it near another one. For example, a seat placed near a raised platform could also be designed to act as a balancing beam. This could mean that you have the potential for trim trail activities as well.

Choice of materials

The types of materials you choose, and their texture and colour, may depend partly on the need for durability and partly on a desire to soften what may otherwise be a hard environment. The use of surface decoration and other details and a rounding off of corners and edges to remove angular lines can also make objects visually softer. A similar effect can be achieved by training plants up or over suitable structures, while flags, wind chimes or hanging baskets might be incorporated in the design. An interesting structure was made by pupils of Yardley Infant School who designed and painted three 'seasonal' canopies to provide shade in the playground as well as protecting the classrooms from Summer sun.

The choice of materials for outdoor structures can often provide a starting point for an investigation into the sources of raw materials. It will demonstrate how much we depend on trees from other countries to make furniture, for example. Perhaps features could be labelled to show the name and country of origin of the material used. This would be a conscious step towards making the grounds more multi-cultural.

YARDLEY INFANT SCHOOL
Main Entrance
Yardley Infants School
Head & Secretary
Please Come In & Make
Yourself Known To A
Member Of Staff

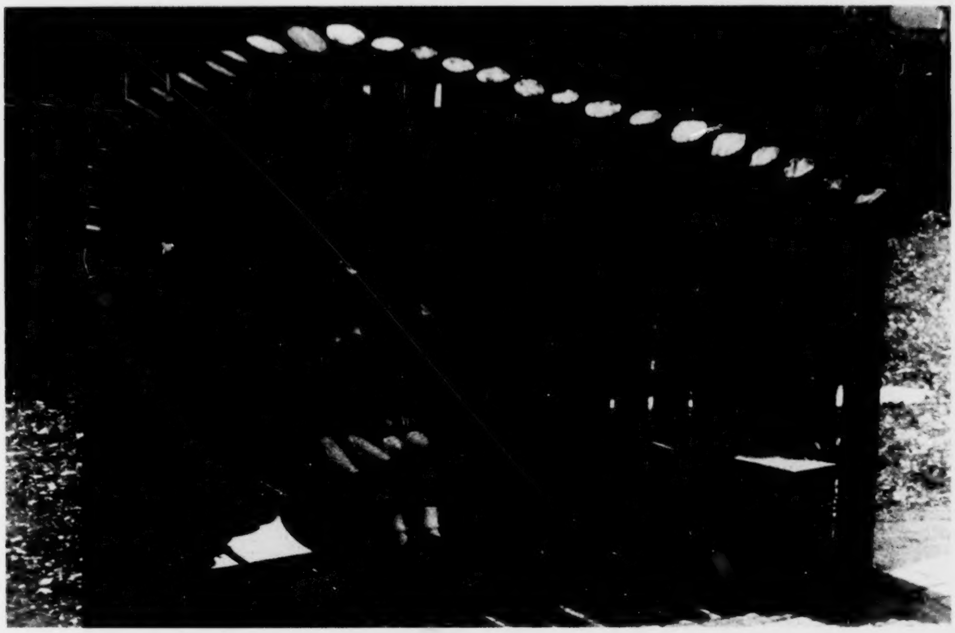
One of the seasonal canopies made by staff and pupils at Yardley Infant School – it provides an area of shade and adds interest to a brick wall.

If vandalism is a problem in your area you may need to take into account specific factors such as the flammability of materials, whether structures can be used to gain access into buildings and the ability to remove graffiti easily. Other considerations may focus on designing and siting objects to discourage or expose illicit use, and ensuring that robust fixing techniques are used to prevent easy removal or destruction.

Seating

Perhaps the most obvious point to note here is that seats come in a variety of shapes and sizes. They need not necessarily be benches. Logs, steps, walls, planters, balancing beams and play structures may also be used as seating. In addition, seating does not always have to be fixed. You could have mats, cushions or folding chairs, for example, all of which can be stored away.

In an urban setting, where space is limited, it is particularly important to get the scale and layout of seating right for your intended purpose and users. Small pupils will use adult-sized seats as climbing structures or play features but will find them unappealing as places to sit and talk, share toys or books or play games. You need to consider whether you are trying to encourage informal



Seating can be visually appealing as well as functional.

socialising or whether you want to use the seats for more formal activities such as teaching or eating meals. This will affect the size, number and arrangement of the seats and should therefore be discussed before designing or purchasing items. If seating is intended for quiet activities external factors such as traffic noise and fumes may need to be taken into account. If you are combining seating with greening the grounds then beware of planting species which will attract bees and wasps since this could discourage its use.

Shelter

Before constructing or purchasing a shelter make sure you have clearly identified the reason why you want it. Protection from different elements – wind, rain or sun - may each require a different solution, although in some cases one structure or feature might be appropriate for them all. Shelters can be created in a variety of forms and the style chosen will be determined by the purpose for which it is needed. For example, a rain shelter will need a solid roof and may also need walls or partial walls, whereas a sun shelter may be provided by a simpler element such as an umbrella, awning, a slatted roof or even a pergola with some planting, a solution adopted by Hazelwood Infant School in Enfield. If you are creating shelter from the wind you may be thinking in terms of a barrier rather than a roofed structure and this could also introduce a vertical element into the site if

A seat can be constructed around a newly planted tree. It makes a focal point in the playground and as the tree grows it will provide a pleasant shaded area.

this dimension is lacking. On certain sites it may be possible to use or adapt existing features such as cycle sheds, storage sheds, verandahs or outside toilets to provide sheltered areas. Of course you need to make sure that the structure is safe for the new use.

It is important to identify the patterns of movement and direction of the elements for which the shelter is required in order to ensure that the proposed feature will do its job effectively. You might also consider ways in which the elements can be harnessed to provide a positive feature in your grounds, for example, wind chimes, a solar panel, a water wheel or butt, and this might be incorporated into the structure you erect.

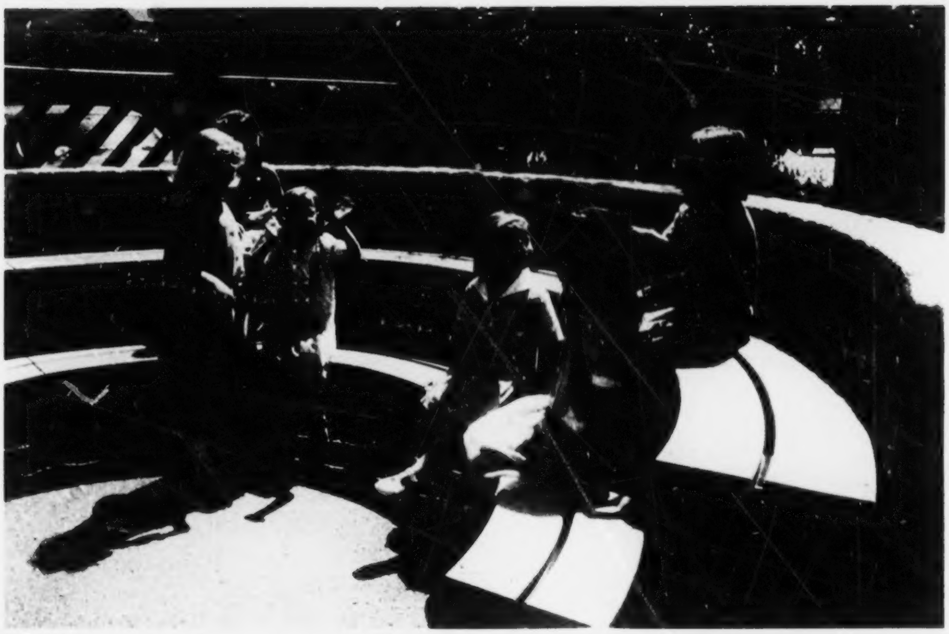
If you are creating a roofed structure you need to take account of water run-off in order to avoid serious problems on the playground surface. Again it is worthwhile considering whether it can be put to positive use by supplying water butts or an irrigation system or a water feature. (Beware of pollution if you are directing the water into a pond.)

A well-thought-out design can transform an existing wall into a welcoming sheltered area.

Raised structures

A raised structure can introduce a change of level or a new viewpoint. You can create the opportunity to look down on something or to experience a habitat at a different height. You might use it to introduce a vertical element on a site where you can't grow trees. Victoria Park Infant School constructed a pergola with a 30 foot hungry caterpillar on top, stopping both road traffic and an Intercity train during its construction! This has turned an unattractive corner into a secret place much loved by the children, as well as creating an eye-catching feature in the school grounds.

Water run-off may need to be considered on large platforms or walkways, and you will need to be careful that the surface does not become slippery when wet. If a platform is some height off the ground then it may be advisable to have a safety barrier at the edge or a safety surface underneath or perhaps some way of visibly marking the edge of the steps or platform.



Tiered seating introduces a vertical element into the environment, as well as a mixture of materials which provide variety of texture.

Maintenance

The maintenance of any new feature should be considered from the outset. The durability of materials, the type of surface treatment (and the frequency with which treatment is needed) and the flammability of materials used all need to be carefully considered if pollution and vandalism are likely to be a problem. In addition, routine maintenance will be needed to keep items in good condition. You may need to give particular attention to the way in which structures are fixed to the ground so that they cannot be easily moved. Alternatively, you may want to be able to take items inside or to move them about the site to create variety, in which case you might consider portable or collapsible items or using fixings which are easy to undo.

It is most important that all the elements which affect the maintenance of an item, including routine checks and keeping items clean, from soot, litter or harmful rubbish, for example, are identified at the outset. They should then be costed, in terms of both time and money, and included in a job description or grounds contract.

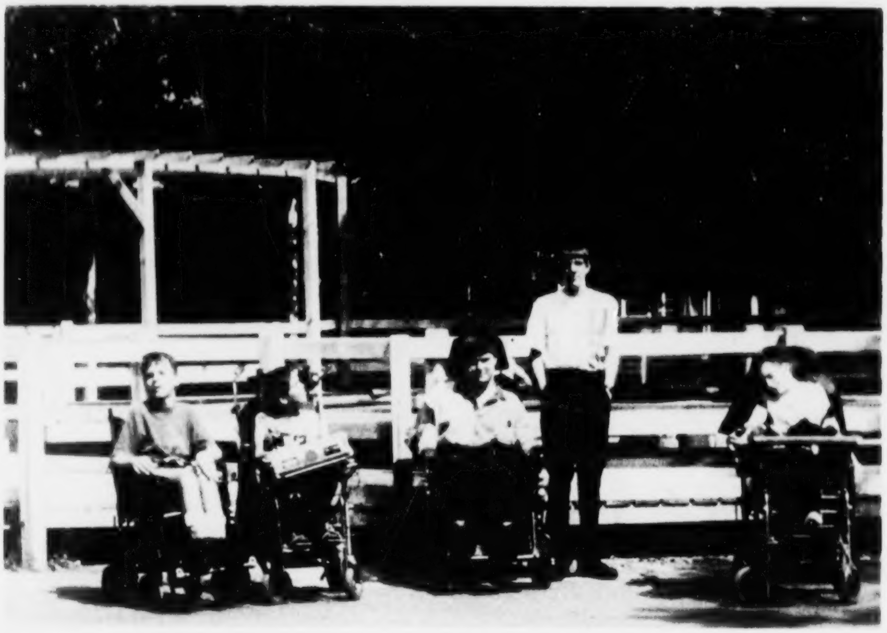
The Clare School

Background to the project

Clare Special School is a day school for children with physical and sensory disabilities. It shares a large site with two mainstream schools, but its allocation of grounds is limited and fairly flat and featureless. In 1992 the school began to explore the possibilities of extending the outdoor facilities to encourage a greater variety of independent activities. Members of staff and pupils visited an adventure playground in Islington and brought back a video recording of their visit. This captured the imagination of other school members and people from outside the school community. From this, and visits to Pensthorpe Waterfowl Trust, the idea emerged of constructing a raised pathway which would enclose a sensory garden. The project was named 'Pathways in the Air'.

A prime motivating factor behind the project was the desire to stimulate and reinforce the mobility skills of pupils, half of whom are in wheelchairs. It was also hoped that it would encourage social interaction and improve recreational facilities, as well as provide resources for National Curriculum work.

The children were consulted about what features they wanted and how they envisaged the pathway. They wanted it 'to look rustic and to blend in with the surrounding trees and foliage' and 'to be a combination of hard and soft textures'. They had lots of ideas for features to be included in the pathway and as many of their ideas as possible were incorporated into the plan.



A raised pathway, accessible to pupils in wheelchairs, has enhanced what was formerly a flat, featureless area.

Fund-raising

In March 1993 the project team began to seek financial and practical support from interested parties. By October they had gained the interest of local planners, an architect and a builder and the promise of some funding from a commercial source and they were ready to submit their entry for the BT/LTL Urban Challenge. When they were awarded £1000 in March 1994 as one of the winners they had a foundation on which to build their fund-raising. Since then, much interest, resulting in financial and practical support, has been shown in the project. In particular, the school's adoption by Briston Sports and Social Club as its charity for 1994 was of great benefit since the club agreed to provide the labour for building the structure and a donation towards the materials. During the next few months funds were received from various sources. In addition Mr Lubbock, the local builder who had taken an interest in the project, obtained donations of materials from suppliers for the structural work.

Getting started

Discussions were held initially between staff and senior pupils, local park rangers and the architect who drew up the plans. This was followed by consultation with staff from the centre for visually impaired pupils, who offered ideas to make the structure easier for their pupils to use. Advice was also sought from physiotherapists and occupational therapists. Site visits were made by the builder and he arranged for a team of men to undertake the erection of the pathway. To help with ideas for the sensory garden a local garden centre was approached for plans and estimates for the features envisaged, including a waterfall and a fish pond.

A garden is not just for looking at: it is important that all pupils have access to the sensory garden so that they can really experience their environment.

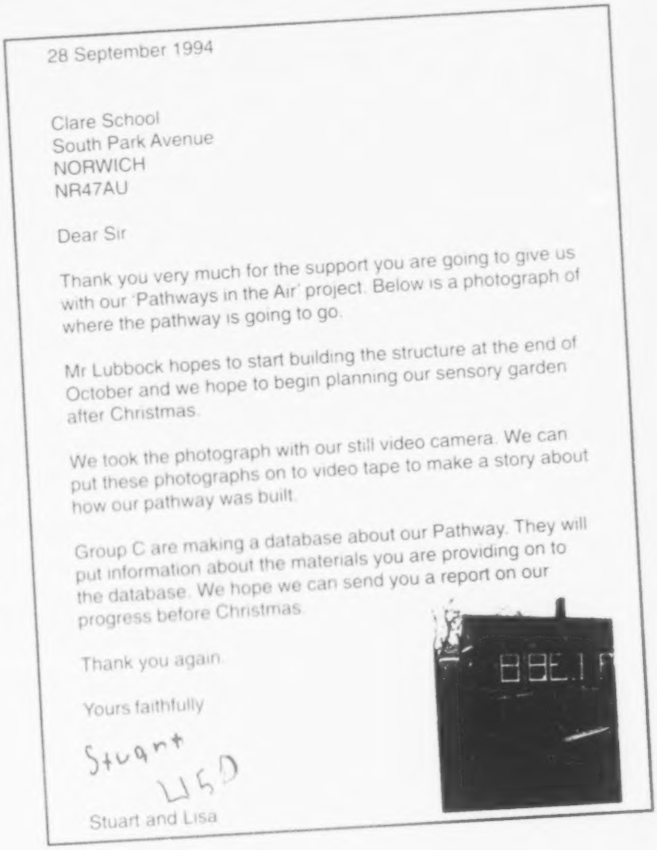
Planning permission was granted in July 1994 (with the proviso that the school would be wholly responsible for maintenance) but it was decided to postpone the construction of the pathway until after the pre-Christmas fund-raising events. In the meantime a landscape gardener visited the school to meet some of the pupils and talk about the sensory garden. By the following Summer the pathway was ready for painting and in the Autumn planting of the sensory garden was started.

Achievements

The children have been closely involved in planning and organising the project. As well as writing letters and sending progress reports to interested parties, they have used a still video camera to record events with the ultimate aim of making a video tape of the whole project.

Databases have been created to store information about the materials being used and spreadsheets have been employed to record details of the project's finances. This has provided readily available and up-to-date information on the project and at the same time has enabled pupils to extend their skills in Information Technology.

Excitement has mounted as the project has progressed and, although adjustments have had to be made along the way, both staff and pupils feel certain that their environment will be greatly enhanced when their 'Path-ways in the Air' are finally completed.



28 September 1994

Clare School
South Park Avenue
NORWICH
NR47AU

Dear Sir

Thank you very much for the support you are going to give us with our 'Pathways in the Air' project. Below is a photograph of where the pathway is going to go.

Mr Lubbock hopes to start building the structure at the end of October and we hope to begin planning our sensory garden after Christmas.

We took the photograph with our still video camera. We can put these photographs on to video tape to make a story about how our pathway was built.

Group C are making a database about our Pathway. They will put information about the materials you are providing on to the database. We hope we can send you a report on our progress before Christmas.

Thank you again.

Yours faithfully

Stuart
LISA

Stuart and Lisa

Hyde Infant School

A few years ago the playground at Hyde Infant School in North West London consisted of an asphalt square. Children found playtime a boring and often aggressive experience. The image of the school in the local community was poor and there was a problem with a falling roll. It was decided that as a priority the school grounds should be developed to provide a stimulating and attractive place of which children, parents and staff could be proud. The result is that the school now has large and small play equipment, garden areas and pets garden, quiet areas, seating and trees and shrubs.

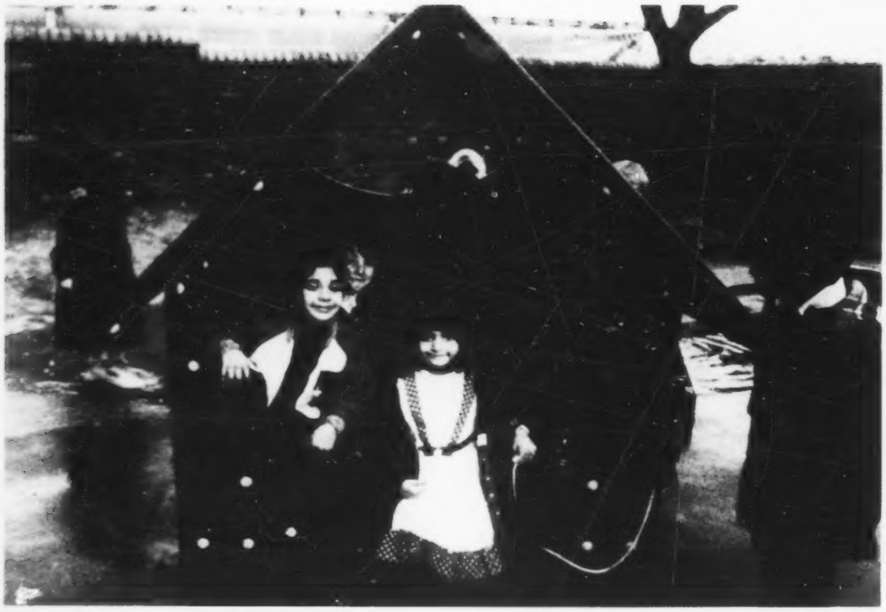
Organising the project

Initiated by Rita Cooper who came to the school as headteacher only a few years ago, the project has involved the whole school community through the School Council which represents staff, pupils, parents and governors. The parents have been very supportive, in particular by raising funds to enable the school to provide additional resources. Mealtime supervisors have been on training courses to learn playground supervision skills, including teaching games. The governors helped to organise a grand 'playground opening' and one of the governors has been a source of funds through her employers.

The whole staff worked on a four-year curriculum plan which linked curriculum areas to the use of the playground as an outdoor classroom. The gardens and pets area are an obvious source of inspiration for science work, but can also be used for maths projects (on measurement, for example) and for creative and factual writing. Classes use the quiet area regularly for story sessions.

The children have been closely involved in the organisation in a number of practical ways.

- A competition was held to design a welcome poster.
- The whole school took part in a project on 'our playground' and one class led an assembly on this theme.
- The School Council was formed to provide a voice through which all children could make suggestions for further improvements.
- A school gardening club has been set up to care for the garden. In addition, each class has its own plant container for which it is responsible.
- The top classes designed a scheme for painting the playground surface.
- All the children helped to paint a large mural.
- The older children are responsible for organising playground toys.



The playhouse is a simple three-sided structure that provides shelter as well as encouraging imaginative play.

The playground transformed

> '*We used to have old toilets, now we've got flowers and rabbits.*' Nicola, aged six

The once barren site now contains large climbing apparatus and mini-mazes, a playhouse and a caravan for role-playing and an extensive range of small PE equipment, as well as construction toys, cars and games. There are several large community chalk-board areas. The visual effects on the school's environment are noticed by everyone who visits; so too are the 'welcome' sign that the children designed and the colourful plant containers around the main entrance.

Staff and pupils alike have been inspired by the success of their efforts. They have continued planting and one corner of the playground has been turned over to grass and trees. A dangerous brick pier has been demolished to make another small garden area. As a focal point two large trees have been planted in the centre of the playground, complete with tree seats and a planted area. This has provided a pleasant environment for children to sit and talk and play quiet games.

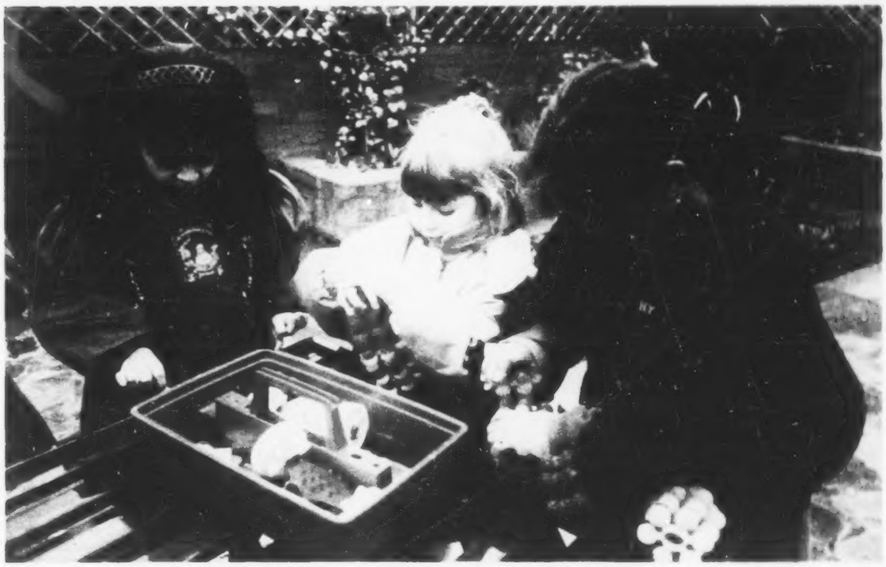
The next stage is to have the playground painted with a variety of designs and a greenhouse is to be erected by the Community Services. An important development during the next financial year will be the construction of a covered arbour with a bench beneath to serve as a quiet, 'secret' place for the children to sit. It is also intended to raise funds for the provision of extra play resources for each class.

Finance and maintenance

The school has a small budget for such items as plants and play equipment, but otherwise relies fairly heavily on fund-raising and grants for larger projects. One of the most successful fund-raising ideas was a 'plant-in'. Almost all the parents joined in by planting a flower or a vegetable with their own child in one of the garden areas. Everyone enjoyed the activity and it meant that the school saved having to buy plants and shrubs.

The BT/LTL Urban Challenge award helped the school to pay for playground painting and planting equipment, but it also had a more far-reaching effect because it gave a tremendous boost to everyone connected with the school. Staff were inspired to think up and pursue different ideas and the school's profile was raised, with the result that a grant of £200 was received to pay for trees and the school was chosen as Barnet's entry for the London in Bloom competition.

Much of the routine maintenance has been carried out by Community Services at no cost to the school. Parent volunteers have helped members of staff and the caretaker to look after the garden and the pets during the holidays and the children enjoy being involved in these activities. The headteacher feels now, however, that it would be better to have a formal maintenance plan and it is intended to incorporate this into the development plan.



A small garden area with tables and seating means that groups of children can enjoy quiet play and learning activities.

The results

The provision of structures for the children to sit and play on outside has done much to make the playground more welcoming. The children feel they are part of the environment they have helped to create and the project has had a very significant effect on attitudes and behaviour throughout the school. There are far fewer incidents of aggressive behaviour and Reception children are no longer worried about playtime. Formerly they would often ask to stay in from fear of bullying. An ethos of caring and of being kind to one another has developed and this has extended to a concern for the environment. Another result of the improvements to the grounds is that children are discovering the enjoyment of traditional playground games such as hopscotch and skipping rhymes.

The sense of ownership and pride shared by everyone connected with the school has made all the extra work and expense well worthwhile. Everyone shares a commitment to the project and the enthusiasm of the whole school community has been the key to its success.

CHAPTER 6

Art in the Playground

Carol Kenna, Greenwich Mural Workshop

Art should make us wonder and it should also make us think. For artists, as for children, it is a way of exploring the world and expressing their feelings about it. Art should be the means through which ideas are expressed in the most exciting way possible with the most appropriate materials, whether the style is vivid and bold or gentle and questioning.

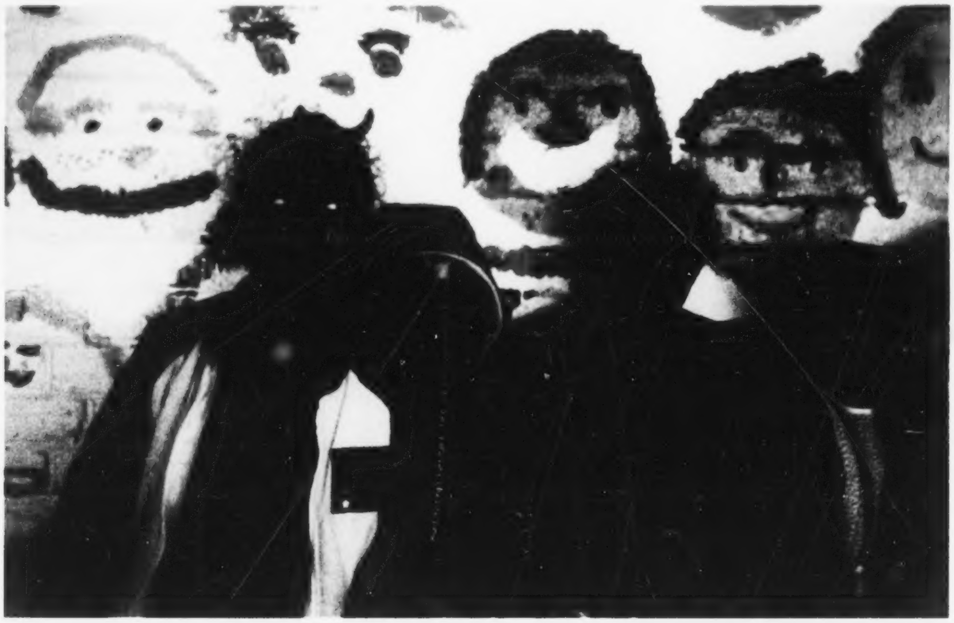
Art also needs to be relevant to its environment. In the playground art should respond to the structure of the site – its size, shape and so on – and to existing features such as buildings, trees, landscape and furnishings. Before embarking on improvements, an assessment of the school's playground is necessary. You will need to take measurements and make detailed plans, study and record how the playground is used, discuss pupils' feelings about it and how they would like to see it improved. Perhaps the assessment could be part of curriculum work. It is a worthwhile exercise since it will provide a clear basis and direction for proposals for change and it will save time and money later when the services of professionals are engaged. It will also help to clarify ambitions for the overall character of the playground, whether art is a central feature or only a small part. From the assessment comes an overall design, and from that a plan of each stage of the project according to the school's priorities.

A vision for art in the playground

There are two important roles that art can play in the development of school grounds.

- The school playground is where the children's time is their own. Some will read, some talk, some play football or climb, or play hopscotch or marbles, and some will just dream. Ideally the playground will be a multi-faceted environment, providing diverse and interesting spaces for a whole range of activities. Art in various forms can help to create these 'supportive spaces'.
- The creation of art outdoors will help children to develop their art skills and through this realise that they have the ability to change their world. It gives them the chance to express ideas about everything from the school itself to the world outside, to put classroom skills into practice and to take pride in their achievements in transforming their environment. In addition, art projects can lead to cross-curricular work and can provide opportunities for involving parents and the local community.

As part of a school grounds project art can take a number of different forms. The following examples are not specific case studies, but just some of many ideas that schools can develop to fit their own particular aims and circumstances.



A simple but effective mural can turn a blank wall into a colourful gallery of the children's own paintings.

Murals

A school has a playground shed but it is dingy and, although it has seats, few children use it. The headteacher decides to ask a group of artists to paint murals in the shed. First the walls are rendered and primed white, then divided so that each school year has an arch. Themes are chosen by staff from current class projects. The artists work with each class in turn and the pupils' coloured drawings are composed and painted on to the shed walls. The shed now glows with colour. Pupils use it more than they did before and they proudly point out to everyone the picture they contributed to their year's mural. Sometimes teachers use the murals to discuss projects with their class.

Artists who are in residence for a period at a school have a brief to provide a wide range of artistic improvements. After studying the school environment they suggest an art programme that includes changing the forbidding appearance of the school to make it more welcoming. The programme is agreed and work begins. Features for the front gables are designed by the children and painted by the artists. Then the perimeter wall is tackled: each child's 'portrait' is to be painted on it. First the children draw around each other's silhouettes, then the artists prime the shapes and each child paints over their silhouette in acrylic colours. The result is visually stunning. The programme has made the school look attractive, pupils are happier and there is now very little truanting.

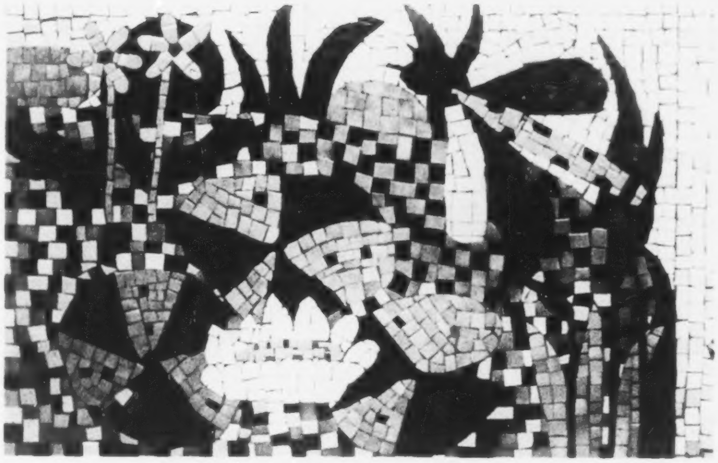
If the mural is painted on a sheet of exterior plywood, which is then fixed to the wall, it can be resited if required at a later date to create a change of 'scenery'.

Mosaic

One of the themes being studied in the school is the solar system. To link with this a local artist suggests that the school creates a sundial in the playground, with the pointer that casts the shadow being made by a person standing in the centre. The project becomes part of classroom studies. On the sunniest part of the playground a sundial specialist, helped by pupils, marks out points for the hours and months related to the school's specific latitude and longitude. The artist works with each class to make decorative designs for the hours and months, which will later be made up into mosaics, cemented on to concrete squares and fixed into the places marked on the playground. It is hoped that the project will add a new dimension to the children's ideas of time and space, as well as giving them an opportunity to learn different art skills. At the same time the playground will become a colourful living sundial.

It is decided to create a mosaic to cover a wall that is particularly drab outside the girls' toilets. Local artists may be brought in to help, or pupils and staff might develop the project themselves. First the overall design is chosen and then the details worked out, before the entire mosaic is drawn up on paper squares. When the wall has been prepared with render and hardened, the mosaics are applied and grouted. The value of using mosaic is its strength of colour and texture and the delight children find in working with it. A bonus is that pupils who think they are not artistic often discover unexpected skills in using colour and pattern and gain confidence in this area.

Being hardwearing, mosaic is ideal as a ground decoration. It also has a very tactile appeal, even if this means getting down to ground level to appreciate it!



A wall mosaic can have a strong visual impact. The benefit of working with mosaics is that it helps children to develop skills in using colour and pattern.

Sculpture

A school which has a large playground but few facilities wants to improve its grounds. Staff and pupils draw up a programme they would like to develop: a wild garden, landscaped, with trees and a pond, a quiet area with seats and tables and trellises, a climbing structure and a barrier to divide football players from the less boisterous. For a number of these changes the help of a sculptor would be very useful. Imaginatively sculptured seats can be designed and built, with pupils helping in the construction and fixing together and perhaps painting them before installation. A combined climbing structure and sculpture could be carved from timber and assembled, to provide a centrepiece in the playground. Perhaps an 'artistic fence' could be devised, with cardboard models used to create cut-out plywood shapes which would then be joined to form the fence. Since this would require some trenching for posts, it would also provide an opportunity for planting alongside the fence.

The entrance to an inner-city school is bounded by a high wall and heavy gates that open on to a featureless lawn. This the school decides to transform into a 'world garden', representing the different cultures of pupils in the school, and at the same time changing it into a welcoming entrance and an outdoor classroom.

This sculptured seat combines the artistic and the functional in a way that is completely in harmony with the environment.

A local artist carries out a feasibility study and recommends reducing the wall to a more friendly scale and making it the base for a 'city-sculpture'. The artist is commissioned and spends several weeks developing ideas with the children. The new wall and gates are then built, with the children taking part in the sculpture and painting. The opportunity to design in three dimensions and to be involved in making a physical form that has both meaning and function are of substantial value to the children's developing manual skills, to their visual and tactile awareness, and to their confidence and creative development.

Maintenance

As with any new facility, the maintenance of art in the playground needs to be considered before it is bought or made and this may be a factor in the choice of features used. Indoors or under shelter murals will stay as good as new for twenty years or more, and mosaics, whether inside or out, will last for ever. Both media require a dust or wash occasionally to keep them clean. Outside, the enemies of the painted mural are rain, sunshine and temperature extremes, but don't let this deter you, for a well-prepared, well-painted mural should last outside for ten years at least.

A sculpture can add an unexpected element to the greening of a site. This one was made by an art student for the grounds of Dunalley School.

With sculptures the occasional cleaning is necessary, though their longevity will depend upon the materials they are made from, how carefully they are assembled and fixed, as well as the use they are given. Stone carvings and bronze-cast structures still look quite new after many years in the open. Wood carvings and structures are naturally less strong but if properly designed and assembled, and not badly treated, should last many years. A plywood structure should be protected with paint or varnish to repel moisture, and over time will require new coats of paint. Provided that the surface of a mural or painted sculpture has been given a coat of varnish, any graffiti can be erased with paint remover. Stone will need to be similarly protected, but metal and mosaic can be cleaned directly with paint remover.

The value of art

All the projects described are the result of interaction between pupils, artists and teachers. They are generated by different themes and by different requirements, according to the site and the specific needs of the school. Conceiving and producing a work of art provides an opportunity for collaboration between children and professional artists and others in the community. The examples included here are only tasters of what artists may be able to contribute to the enhancement of the school environment. Their value to the school is to visualise and make possible a new landscape, which can allow the children to find wonder and inspiration in their surroundings.

Hardwick Junior School

Hardwick is an inner-city school in Derby whose pupils come from a variety of cultural and religious backgrounds. The pupils all live near the school in a densely populated area and have nowhere to play outside school hours except in the street. The school buildings are surrounded by a high boundary wall enclosing a tarmac playground, all of which added up to an unwelcoming appearance.

Inside the school the impression is quite different. Corridors, classrooms and staircases contain lively, stimulating displays and written messages are all multi-lingual so that no visitor feels isolated. The ethos of the school is based on constant communication with the local community and other agencies to create a safe, happy and caring environment. Both staff and pupils wanted to extend this atmosphere into the playground.

Another important aspect of the project was to improve the children's health by providing facilities for healthy exercise. The children were asked what they thought of their playground and what changes they wanted. They remarked on the lack of facilities for reading or resting after a game and for groups to sit together, and the fact that nothing grew in the playground. Their comments formed the basis of the plan for improvement.

Art has played a large part in making the playground more attractive.

Planning for change

A series of enquiries was carried out to find out what features were needed in the playground and what would be involved in providing them. The staff were agreed that ways should be found to incorporate the changes into curriculum work and by looking carefully at the school curriculum plan they were able to approach the task through a whole school topic. Enquiries included a wide range of questions.

- How can we document the present situation?
- What do we do during break? What would we like to do?
- What size is the area to be developed?
- How should we behave in the playground?
- How are we going to share the work load?
- How is our playground affected by the weather?
- Where will we position the games?
- How can we record the games/play ideas?

The activities generated by these enquiries involved a variety of work that was relevant to the Programmes of Study in geography, English, art, maths, science, information technology, PSE and music.

A further aspect of the planning was to involve the community in the project. All the parents were asked to describe any games which they themselves played as children, with the aim of compiling a book of games to reflect the varied cultural heritage of the school. Layouts for some of the games would also be incorporated into the playground design. Letters were written to residents living around the school to explain the plan and ask for their comments and suggestions. In addition the school wrote to local industries and enterprises to seek their support for the project.

Getting started

Once the enquiries had been completed and the responses assessed, a firm plan could be drawn up. It was decided that, in some areas, the layout for games would be painted on walls and on the ground, while in others targets would be painted for pupils to invent their own games. Elsewhere there would be murals on the walls, including maps of continents, and each mural would be the responsibility of a particular year group.

Wall-mounted elephant targets are used for a variety of games and make a colourful feature on a plain brick wall.

Seating would be built with flat work tops for books and quiet games, and landscaped areas would provide places for children to sit and talk. The children also wanted to have shrubs and trees in containers which would be visible both to them and to residents opposite the school.

It was planned to implement the project in two phases over a period of two school years. The first phase would concentrate on making the playground attractive and useful, incorporating as many of the children's ideas as possible. In the second phase low-level climbing equipment would be added and the murals completed to extend the landscaped areas. The aim was to involve the children as much as possible in the painting and construction work and also in the maintenance of the project, in such things as feeding and watering the plants and helping with minor repairs. A design graduate, who was looking for work experience, was contacted and she agreed to help the school with its project. Under her guidance, work parties of teachers and children designed and painted murals and playground markings.

A key element in improving the quality of children's play has been a programme of in-service training for midday supervisors. A series of sessions was arranged with the advisory teacher for PSE/Community Education from the local authority. As a result the children have been taught a selection of traditional and new games from around the world.

10
20
10
50
20
20
10
10

A dragon stands guard over another wall, also used for pupils' games.

Finance

Not having the resources of a PTA to call on, the school has had to think up a variety of ways to raise funds. These have included holding an annual fayre, entering national and local competitions, and taking part in sponsored events such as Derbyshire's Go For Health Day where pupils are sponsored for taking part in healthy activities.

Another initiative has been the setting up of a school tuck shop which sells only healthy snacks. The aim of this was to raise money to buy small apparatus for use during the lunch break. Having raised the finance themselves through their purchases at the tuck shop, the children have developed a sense of ownership in this equipment. They have chosen the items they want, for both outdoor and indoor sessions, by looking through catalogues and trying to keep within their budget. The equipment is kept by the midday supervisors.

The local media took an interest in the project from its early days. Articles and photographs appeared in the press and a local radio station interviewed staff and pupils about their ideas. The school found that this exposure proved helpful in its contacts with local agencies and firms who were made aware of the project in this way.

The grand opening

As the project progressed pupils became increasingly excited about seeing the end result and it was decided to celebrate their achievements by holding an official opening of the enhanced playground. Parents and members of the local community were invited to attend and join in the games and activities.

The transformation of the playground has inspired not only Hardwick's own pupils and staff but also a number of other schools which have seen or read about it. In order to share all the ideas and experience the school has produced a booklet documenting the various elements and stages in the project. It is clear that the aims set out there are well on their way to being fulfilled and that through a project such as this pupils learn that they themselves can be agents of change.

PLAYGRO
LY 1993

The official opening of the new-look playground was a grand event, matched by the invitations the pupils designed.

Victoria Park Infant School

A creative environment

Immense enthusiasm and a strong commitment to the task have been the key components in Victoria Park School's playground project. The need to improve their drab, grey asphalt playground, in inner-city Bristol, was identified by many, including parents, staff and governors, but most of all by the children. So, in the Summer of 1992, an improvement project was set up, co-ordinated by Hilary Watts, the former deputy headteacher.

There were several factors they wanted to include and these have all been instrumental in the project's success.

- The children were to be actively involved in the whole process. As it has developed, their creative ideas have become the central motivating force of the project.
- The project was to be directly linked to the delivery of the National Curriculum. This has enabled stimulating activities to be provided in every subject and, because it is developing the children's own experiences, the quality of learning has been high.
- There was a wish to link up with representatives from commerce and industry. This the school has done and it has proved extremely successful.
- The aim was to create an extension of the school's inner environment, catering for the needs of every child.

In the original plan the time-scale envisaged was one year. The Friends of Victoria Park Infant School had already raised a considerable sum of money and the governors agreed to set aside an amount from the school budget to help finance the project if it was needed. The vision was there, but how was it to be realised?

Partnership with industry

The first step was to link up with a construction firm. This was achieved through the Avon Construction Curriculum Initiative Project, as a result of which the Bristol-based company Pearce Construction (South West) agreed to be the school's partner. This partnership has been a great success, not only in the provision of expertise and resources but also in the close collaboration that has evolved.

A design team from Pearce Construction paid frequent visits to the school to discuss ideas for the scheme. The children were able to take part in surveying the playground, making models and using a computer to draw designs. Staff and architects discussed with the children their own perceptions of the playground and observed their use of the existing space. Through a video recording the children were able to observe themselves and explain what they were doing and what games they were playing. This colaboration proved to be inspirational. A design layout proposal was formulated and this has become the framework for developing the playground. It is linked strongly to the geography and dynamics of the existing playground and includes areas for fast physical play, mobile play, quiet play, imaginative play, and investigative play.

Many examples of the children's ideas could be quoted, all of them imaginative. One child told her mother one evening that she had a dream of sailing away in the prow of a ship. The mother shared her daughter's dream with her teachers and it became the inspiration for the finishing touch to the low esplanade walk at the edge of the playground.

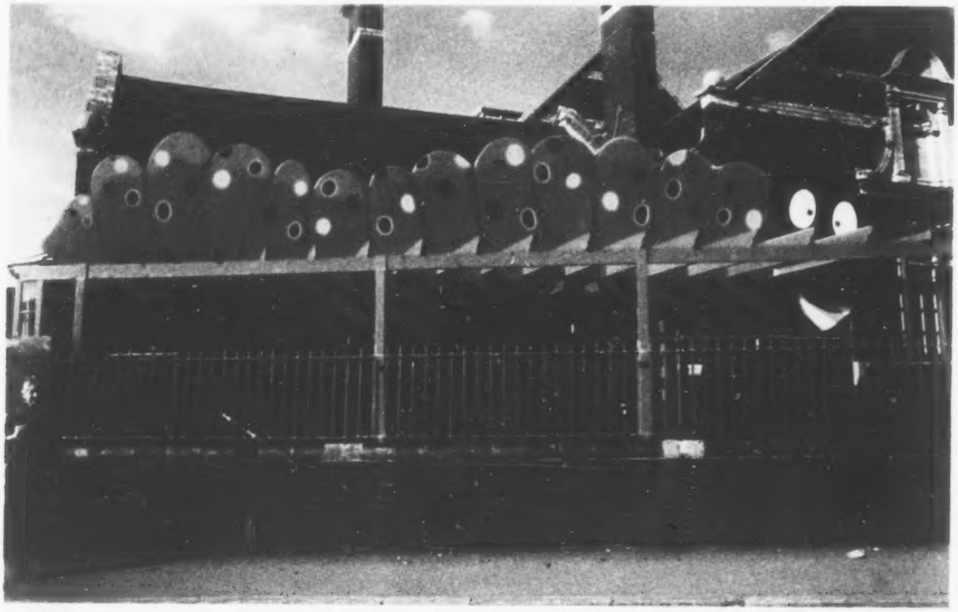
The gazebo is well used and provides welcome shade and seating.

Another child suggested that the supporting beam for the pergola could take the form of a cat chasing mice. The architect listened and through discussion and investigation the child realised that a supporting beam needed to be continuous. However, they talked about the idea and both felt that it would make an attractive mobile to hang under the gazebo: the cat would chase the mice in the wind!

Achievements

The school's successful entry in the BT/LTL Urban Challenge provided fresh impetus and opened new doors in its search for outside contacts. A lot of people were eager to become involved when they learnt of the exciting and innovative project. Inspired by the children's evident enthusiasm, other schools wished to hear about their ideas and talk to those involved.

The gazebo in the main playground is well used and much liveliness and colour have been introduced by a magnificent Hungry Caterpillar pergola. This has been featured in the local community newspaper and even caused a stir while it was being built. An Intercity train slowed as it passed the factory because alongside the track appeared to be crawling a thirty-foot caterpillar, the twelve men carrying it invisible inside!



The impact of the Hungry Caterpillar pergola extends beyond the school gates and into the neighbourhood.

The project continues to move forward slowly. Staff have realised that their original time-scale of one year was unrealistic. They have had to make action plans for each new stage, taking it forward one step at a time. One of the main structural features, an amphitheatre, has been completed, the materials and expertise for its construction being supplied by contacts of the school's industrial partner. At a grand opening ceremony the children were naturally centre stage.

As the project progresses, the staff are convinced that the work has been worthwhile. The enthusiasm of everyone involved has attracted interest and people want to share their skills and expertise to enable the school to turn its vision into reality.

The amphitheatre makes use of symmetrical design to provide a stage for outdoor drama activities.

CHAPTER 7

Secondary Schools

LIZ RUSSELL, LEARNING THROUGH LANDSCAPES

One of the most exciting developments in the BT/LTL Urban Challenge project has been the increasing number of Secondary schools which have submitted entries as the years have passed. Since the process of grounds development in Secondary schools is more difficult to manage, it is encouraging that so many of them have realised the very great benefits which can be gained by improving both the environment and the use of the grounds. As a result a number of very stimulating proposals are being implemented throughout the country.

As with Primary schools, it is particularly important to take a holistic view of the site initially, even if development is phased in over a number of years and even though the formal curriculum is necessarily more complex and more fragmentary. The fact that pupils are that much older than at Primary level and that their interests and needs are different means that there are issues of particular relevance to Secondary schools, some of which are touched upon here.

Curriculum links

In many Secondary schools the visual and social aspects of the site and the rationalisation of pedestrian and vehicular circulation are given first priority. The development of these aspects can provide opportunities for curriculum links in maths, geography, design technology and art. A number of excellent schemes for the main entrance area of the school have been designed

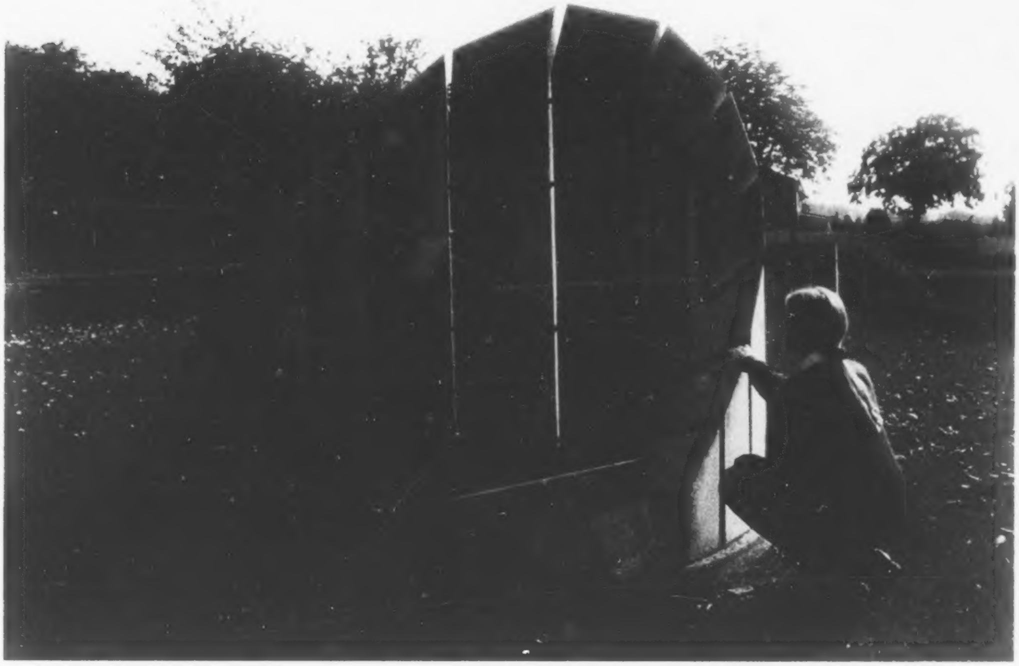
In Secondary schools formal curriculum work can be linked to the outdoor environment.

in a way that draws on curriculum work. These include the reorganisation of pedestrian and vehicular access, new planting, shelter, clustered seating areas, gates and more welcoming and visually exciting signposting. There is also scope for more imaginative use of paving and walls, including mosaics, patterns and murals. Many of these improvements can be implemented by the students and this can help to improve their written and verbal presentation as well as their organisational skills. At Golden Hillock School in Birmingham a portion of the site was developed into a garden which could be used during the day by the wider community as well as the school. In this case the community links and the impetus for the project were the result of curriculum work in history on the Second World War. In several other schools the redesign of the entrance area has been a design technology project which the students have gone on to implement.

A number of site improvement projects have begun as habitat development programmes which have been the responsibility of a science or geography teacher. Once the initial improvements have been carried out other members of staff, including dinnertime supervisors and caretakers, have become enthusiastic and have made additional suggestions, started further projects or developed the original idea. At Reading Girls' School a habitat development programme was set up, with the involvement of the students and co-ordinated by the geography teacher. The environmental improvements were such that the dinnertime supervisors noticed a beneficial effect on the students. Parents and the wider community who used the site became interested and began to offer help and materials. The caretaker was supportive in offering and implementing a number of creative ideas, and other staff began to use the developed areas to support their teaching. The school now devotes one week each term to an environmental theme, and sets aside part of the school budget (£2000) annually for environmental work.

Another example is Heathcote School in Waltham Forest, London, where staff are now expected to target the use of the school environment in their development plans for all subjects. Yet another school arranged a link with an African school and from this link a major grounds development programme has been initiated. The work has involved the whole school and covered all curriculum areas.

The role of design technology in grounds development has already been mentioned. Other applications of design technology can be seen in the continuing development of the grounds (items such as bird feeders, litter bins, seats) and in the creation of wind- and water-power generators which also provides links with other curriculum areas. One school is creating a micro river system to help in the study of water flow, erosion, weathering and landforms. Art and English activities have been stimulated by the study of sound, light and movement, patterns, dyes, colours and textures from the natural environment. Work in mathematics, business studies and information technology has been involved in the costing of site management and site development, and in the measurement of area and calculation of cost and quantity of materials required for new developments.



A sun sculpture in the school grounds plays a part in scientific and mathematical observations.

The social element

Many schools are aware of the social needs of the students at break and lunchtimes, and there are often opportunities for developing small spaces where students can meet and talk, read, play games or study. At the same time a number of discrete spaces for physical activities such as basketball, ping pong (covered and sheltered from the wind) or fitness exercises can be created to encourage a variety of pursuits during breaktimes.

One development which has been explored in a number of Secondary schools is the provision of an outdoor eating area adjacent to the hall and kitchen. Depending on the design of the space this can also become an outdoor performing area or a place for entertaining students, parents or the wider community. It is essential that the students are consulted and their views taken into account in all these developments in order that the fullest use of the site is realised and to engender in them feelings of pride, ownership and responsibility for the site.

EATING AREA
COKE

A covered outdoor eating area has proved popular with pupils at a number of schools.

Management and organisation

Managing the process of change can be more complicated at the Secondary level because of the nature of the curriculum and the larger size of the school. It is very important that everyone, staff and students, is involved in the process if the developments are genuinely to reflect the needs of the school, even though the project may be co-ordinated by one person. In many cases a staff member has been the co-ordinator and usually part of their time is allocated to this work. This is particularly important if they are also responsible for raising funds, since this can be a very time-consuming job and involves making local connections and following up leads, as well as writing the necessary letters. In some instances parents have taken on the role of fund-raisers, but it is generally found more advantageous to keep the main focus within the school in order to maximise the involvement of staff and pupils.

It doesn't matter if the development process has a long time-scale. Indeed this can be beneficial, because it allows the continuing involvement of the students, gives teachers time to develop curriculum use of the site and ensures that the arrangements for maintenance of new developments can be considered at each stage. It also means that fund-raising can be targeted on one particular area at a time. It is important, however, that students see the results of some of the changes they have been involved with before they leave the school.

A number of schools have involved an outside professional in the preparation of a plan for the site. This can be helpful in drawing up a feasibility study or a structure plan. However it is vital that the whole school looks closely at the existing site and its use, and considers in depth what it would like to do with the site, before outside experts are brought in. In this way any plan drawn up will be a useful tool in helping the school develop its own unique environment to enrich all its activities. Professional advice can also be valuable when it comes to developing individual areas of the site in more detail. Wildlife organisations, artists and businesses have all been constructively involved in site developments.

Schemes do not need to be elaborate to be successful, although they should be robust enough to withstand heavy use. Often the constructive use and enjoyment derived from developing one part of the site has stimulated interest in improving other areas. If an initial overview of the site has been carried out to identify possible developments in different areas, then this enhanced interest can be channelled in the right direction and will contribute to the richness of the whole project.

Golden Hillock Community School

Golden Hillock School is a mixed comprehensive in inner-city Birmingham. It had probably one of the grimmest sites of any Secondary school, with almost a complete lack of greenery and very little playground space. The area around the school consists mainly of terraced houses and factories. Over 90 per cent of the pupils come from ethnic minority families, predominantly of Muslim Asian background.

With the advent of a new headteacher, Thelma Probert, in 1992, the school embarked on a project to green the site and drew up a site development plan. It is a long-term project with a number of objectives including the provision of quiet areas and play facilities, the extension of learning opportunities and the improvement of the school's image in the community. Another aim is to raise the pupils' self-esteem by helping them to learn that they can work through the democratic process to achieve something positive.

In addition to the greening project the school is also undergoing a major refurbishment programme which will result in improved facilities; this was begun early in 1995 and was expected to take most of the year. As a result of this much of the work on creating green areas had to be delayed until the major building work was completed, but progress was made in developing the scheme. Since the original school buildings are Victorian it was decided to create a Victorian-style courtyard garden within the grounds.

Curriculum links

The pupils, especially those in Year 7, became very involved in the site development plan and in the process covered a lot of National Curriculum work, particularly in English, geography, maths and science. As the site is developed it is intended to use it much more in all curriculum areas, including technology and environmental studies.

One example of an idea that has grown out of curriculum work is the creation of a Peace Garden, the impetus for which came from studies of the two World Wars. It has provided both a key element in the development plan and a stimulus for further classwork, as well as forging strong links with the wider community.

The Peace Garden

The idea for the garden was the brainchild of Ian Binnie, deputy headteacher and historian. Like many history teachers, those at Golden Hillock were keen to tap into local human resources, particularly since there were a lot of elderly residents living near to the school. As part of a Year 9 project one of the teachers, Sue O'Neil, suggested writing to the local newspaper to try to make contact with anyone who had worked at the Birmingham Small Arms factory – now demolished – during the Second World War or anyone who had lived in Birmingham during the Blitz. Several replies were received. At the same time Ian Binnie was reading about the remains of US air bases in Britain and, after seeing a picture of a Garden of Remembrance in a Norfolk Primary school, had the idea of using this contact with local people to set up their own garden.

He discussed the idea with Peter Simpson, the local authority Community Education Development Officer, who was enthusiastic about it and suggested that it should also include a 'pocket park' where local residents could sit. The advantage of this would be that local people would have a quiet place to go during the school's lesson times and pupils would have access to it during breaks and lunchtime. There was a small area of playground near the main gate which could easily be fenced off, with a gate to give access to pupils. A greening of this area had been projected in the site development plan so it was decided to make this into the Peace Garden, with an official dedication planned for November 1994 to coincide with the eightieth anniversary of the start of the First World War.

Finance

The next step was to consider how to fund the project. It was estimated that initial costs would not be very high, particularly since no major work could be carried out until the refurbishment programme was completed. The school was fortunate to have the support at this stage of a local housing association, who erected temporary fencing to mark out the garden. The Birmingham branch of the Western Front Association and the local branch of the Royal British Legion were also both supportive and the local authority provided help in various forms. Though the school applied for grants from a number of organisations it was successful with only one application, the Centre for Study of Comprehensive Schools. However, its bid for an Education Industry Partnership Award, in the Environmental Education and Technology across the Curriculum categories, was rewarded with a cheque for £250.

The project takes shape

In the Spring of 1994 the pupils started to become involved in the practical work. Steve Bradshaw, head of technology, led a group of pupils in the design of the garden and the production of some of the hard furnishings. Peter Simpson came in to discuss the needs of elderly people and ways of attracting birds to the garden; as it happened he was organising a larger-scale activity in nearby Sparkhill Park which included putting up bird boxes. Steve Bradshaw and his team attended the launch there and were presented with an official bird box by the leader of the council. This was duly installed in the garden along with others the pupils made themselves. The group then went on to design and cast, in concrete, a number of benches. The professionalism of their work was greatly admired and the benches are in constant use.

In the meantime the historical side of the project was developing rapidly. It had been decided to put up a memorial plaque in the garden with the names of local people who had served in the two World Wars, including those who had worked in nearby factories. Sue O'Neil and her history class took on the task of finding the names. They already had some from the letter in the newspaper and one correspondent, Frank Martin, who was ninety-three, was invited in to talk to them. He told some very interesting and amusing stories about working in the small arms factory as a teenager during the First World War. A very active local resident, Sheila Rawlins, helped pupils to make contact with other people whom she knew. Finally, Dr Carl Chinn, a community historian at the University of Birmingham, talked to the class and showed slides on the history of Sparkhill.

At that point the school felt that it needed some more publicity, so an official launch – and lunch – was organised and all interested parties were invited. The press were also present and an article subsequently appeared in the *Evening Mail* under the headline 'School plan to remember war heroes'. The article mentioned that the school was collecting names for the memorial and it brought in a good response, which was a great boost for the historical research. Some of the letters were quite moving. One was from a relative of an ex-pupil who had been killed when the vessel *Royal Oak* was sunk by a German submarine in Scapa Flow in 1939. Another was from the daughter of a man born locally who was twice wounded on the Western Front and was awarded the Distinguished Conduct Medal. Some respondents even visited the school to talk to staff and pupils.

Dedication day

The school had always planned to hold an official dedication of the memorial as near to Armistice Day as possible. It was held on Thursday 10th November. A local firm of signwriters was commissioned to produce the plaque, but as new names were constantly coming in the school had to use a cardboard mock-up for the dedication in order to keep up to date. A member of the local clergy was asked to perform the dedication and all those involved in the project were invited. The city's Local Studies Library provided support in the form of their 'History Van' with displays on the First World War, as well as computer equipment to copy any documents brought along.

The event turned out to be very successful. Pupils in the Year 9 class (by now Year 10) welcomed the guests and talked with them and staff were impressed to see all these people of different ages, backgrounds, colour, culture and religion getting on so well. There were representatives from the local Territorial Army and from the Birmingham branch of the Normandy Veterans' Association, the latter resplendent in medals. At no time was there any attempt to glorify war: on the contrary, the event was quite thoughtful and moving. The only difficulty came when the concrete benches had to be moved into position!

Moving on

In order to capitalise on the success of the project another activity was planned, to bring together those already involved with other residents and Primary school children. On 7th December a 'Generation Day' was organised, this time involving a new class of Golden Hillock pupils and groups of pupils from Arden Primary School, along with local residents. This continued the theme of the two World Wars but also included other activities. Gordon Rae, from the Western Front Association, brought along artefacts and documents and gave a talk about Birmingham and the First World War. There were also aerobics sessions, quizzes on crime prevention and health, and a traditional Punch and Judy show.

Once again the day proved to be a success. Staff were particularly pleased that elderly people from the Asian community took part. They and other local residents were photographed with pupils from the two schools, providing what will be an interesting historical document.

The next stage in the project will be to finish the garden and then invite everyone back for an official opening. Though the financial cost has been relatively low, the practical input to the project has been extensive and the impact on both pupils and local community far-reaching. Strong links have been forged with groups and organisations with whom the school had little previous contact and pupils' learning experiences have been greatly enriched as a result.

CHAPTER 8

Practical Advice

This book is not intended to be an instruction manual on how to develop urban school grounds. Its aim is to offer inspiration rather than a prescribed course of action. There are, however, certain aspects of school grounds projects where some specific advice may be helpful. Two of these issues are addressed in this chapter: the problem of vandalism and the practical matter of removing tarmac.

DEALING WITH VANDALISM

Issues of security and vandalism are not new to those involved in running schools and staff will be well aware that these are issues to consider when planning any new development. In many areas schools, particularly outside school hours, have been targets for acts of vandalism ranging from graffiti and minor damage to serious cases of arson. However, if potential problems are considered and addressed in the planning stages there is much that can be done to minimise the risks. Perhaps more critically, it is important to realise that not all apparently negative incidents are actually vandalism: some are the direct result of poor or thoughtless design or management.

Schools can of course learn a great deal from the experience of other schools and the ideas included in this chapter are based on the comments and advice of headteachers, crime prevention officers and others who are involved in this matter. The vast majority of schools in contact with LTL tell us that school grounds projects help to reduce vandalism and promote a culture of care, but that this often takes time and a degree of persistence.

Reasons for vandalism

Prevention is always better than cure and by looking at the reasons why vandalism occurs it may be possible to prevent it happening, or at least to reduce its impact. It is generally agreed that a lot of vandalism is a result of boredom: youngsters who claim that they have nothing to do or nowhere to go often find excitement in breaking windows or painting slogans on walls. This is particularly prevalent among groups, usually between the ages of ten and sixteen, when gang behaviour can take over and the participants egg each other on. Causing damage can also be a means of seeking attention.

Another reason why vandalism may occur to school property is the lack of any sense of ownership on the part of the perpetrators. Because of this they do not feel any responsibility and may often regard damaging an institution such as a school as a victimless crime, unable or unwilling to grasp the financial effects of their actions. This can be the case even when the vandalism is caused by pupils of the school.

In some instances those responsible for vandalism are current or former pupils of the school who feel themselves to be alienated from any involvement in school life, either from choice or through the fault of others. In other cases vandalism may be caused by people who are not connected with the school and who feel they have no access to the facilities they are damaging. Cultural alienation may be another factor that leads to vandalism.

Types of vandalism

One of the most common forms of vandalism is the painting of graffiti on school buildings or carving on doors and other woodwork. Other types of damage include breaking windows and skylights, smashing roof tiles, pulling up plants and breaking off branches of trees. Some schools have experienced break-ins, often for the purpose of burglary; though sometimes the aim seems to be simply to cause damage inside.

Probably the most serious risk that schools have to face is the threat of arson. Though this sounds like a formidable problem, it is one that is being addressed and there is much positive action that can be taken to reduce the risk. It has been pointed out by police authorities that the majority of cases arise through opportunity rather than as premeditated acts.

Addressing the problem

It is generally agreed by those who have had to deal with problems of vandalism that a key factor in any solution is to involve the local community in the life of the school so that a sense of ownership develops. This should apply to everyone, whether or not they have children at the school. Once people feel that the school is 'theirs' they will be concerned to keep a watch on it and to help protect it from vandalism.

Communicating regularly and openly with the community is vital in this respect. Schools have done this through articles in local newspapers and by distributing their own newsletter to local residents. Another way is to invite residents to join a home-school association. It has also been found beneficial to make the school more accessible to the community by organising open days, fund-raising events and other activities in which they can take part. A number of schools have encouraged the use of their facilities after school hours by the wider community. Often the biggest problem is the illicit use of sports facilities. By coming to an agreement with these users about access to a specific part of the sports field, some schools have found that vandalism has been avoided.

A strong, secure gate can also be a work of art.

In a number of cases schools have successfully reduced vandalism by directly involving the vandals in the development of the grounds. If those concerned can be identified, this may be a tactic worth considering. It will generate a sense of involvement in those who may otherwise feel excluded from the developments taking place around them.

Equally important is the development of a feeling of ownership among the pupils themselves. Where pupils feel that their views and ideas are valued and that they have a part to play in any development project, they will have a sense of pride and responsibility in their school and negative behaviour is less likely to develop. Teachers will be well aware of course that this applies to all aspects of school life, but it has been shown that school grounds development projects in particular can offer outstanding opportunities for everyone to be involved in shaping their environment. It is important too that the sense of ownership is shared by people of all cultural backgrounds and that minority groups do not feel excluded. Contacts with other schools in the area can also be helpful in tackling the problem. It may be that joint projects can be set up so that pupils from different schools can work together and share in the development and ownership of each school's facilities.

A final point to bear in mind is that perseverance is important. Vandalism sometimes occurs simply because developments are new. It is worthwhile, therefore, to anticipate this and to build in an allowance for repair and replacement in the early stages of a project.

Practical steps for increasing security

No school can afford to be unprepared for vandalism, whatever its previous experience. A strategy for implementing security measures needs to be drawn up and in this area the advice and resources of police authorities and fire services are freely available. The following is a list of ideas that have been adopted by schools and it is offered as guidance to other schools who are considering appropriate security measures.

- The school will be visible to neighbours if overhanging trees and shrubs are regularly pruned back on sightlines.
- Secure fences and gates could be considered, though these should not be too visually intrusive. It is important not to make the school look like a fortress.
- Anti-climb devices can be fitted to drainpipes on buildings and on structures in the grounds.
- Warning devices such as automatic fire detection systems and intruder alarms ensure the early arrival of fire service or police.
- Security lighting and closed-circuit television or security cameras could be introduced as a deterrent to would-be intruders.
- A pass system for entering the building during the daytime could be operated to reduce the risk of unauthorised people wandering around the site. All suspicious incidents should be recorded so that any pattern can be detected and appropriate action taken before problems become too serious.
- Education of staff, pupils and others using the school in fire safety and other security procedures should be taken seriously.
- Waste disposal bins should be sited away from buildings and other structures and if possible kept in secure compounds.
- Any damage caused by vandalism should be dealt with swiftly. A vandalised site left unrepaired invites further vandalism.

Advice on all of these points is available from police authorities, which have experience in helping schools to assess risks and take preventive measures. Some authorities can provide information packs for schools. For instance, West Midlands Police and West Midlands Fire Service have jointly produced a video and booklet covering all aspects of school security which is available to educational establishments in the area. Others, such as Lothian and Borders Police, will visit schools to talk about crime prevention; their presentation includes a video and the aim is to encourage pupils to discuss the effects of vandalism and suggest their own initiatives to combat it.

While security measures will always be needed, the development of a sense of ownership and responsibility among all members of the school and the wider community can go a long way towards preventing vandalism before it becomes a major problem.

REMOVING TARMAC

Tony Begg, lecturer in landscape construction, Merrist Wood College

Once a school has decided to embark on a greening project one of the first tasks to be faced is what to do with the existing hard surface. Most urban school playgrounds consist largely, if not entirely, of expanses of tarmac, some of which may need to be removed to allow for the introduction of other surfaces. This applies of course to areas that are to be grassed over or planted in some way, but will also be necessary where other types of surface are required or where structures or other features are to be built into the playground.

Removing the tarmac surface need not be a daunting task as long as the scheme is thought out carefully and well planned in advance, preferably with the advice of professional landscape staff. It may be that parts of the existing surface can be retained and incorporated into the plan where hard surfaces are required and this should be considered in the early stages. By drawing up a detailed plan any unnecessary work can be avoided and disruption kept to a minimum.

It is worth bearing in mind, however, that tarmac does not always need to be removed in order to 'green' a site. If the surface is broken up and crushed and then left for nature to take over, it will soon become colonised by wild plants which have adapted to poor conditions. You could even experiment with sowing various types of wild flowers. The process of natural regeneration can provide a valuable learning experience.

Preparation

Before any work begins the location of underground services (sewage and water pipes, gas pipes, electricity and telephone cables) should be established. Where buildings are relatively modern, plans and drawings should be available showing the location of all underground services. Accurate information can be obtained from the local or regional offices of the relevant utilities. They will be willing to advise on measures to be taken before starting work and will usually arrange to visit the site. There may be a charge for this service.

With older properties it is often the case that no plans exist which show this information and in these circumstances electro-magnetic-field-locating technology is needed. These instruments are designed to locate buried pipes, power cables and drains. One such device is known as CAT (cable avoiding tool) and this can usually be hired from a local tool hire centre at a reasonably low cost. It is very simple to use and shows a sharp peak response when it passes over a cable.

To trace non-metallic drains, sewers or pipes, a drain locator can be used in a similar way. It is also possible to locate pipework and drainage runs quite accurately by removing manhole or inspection chamber covers in the playground. Another method of finding water lines is to use divining rods.

Breaking up tarmac can be done manually, provided that you have plenty of willing volunteers!

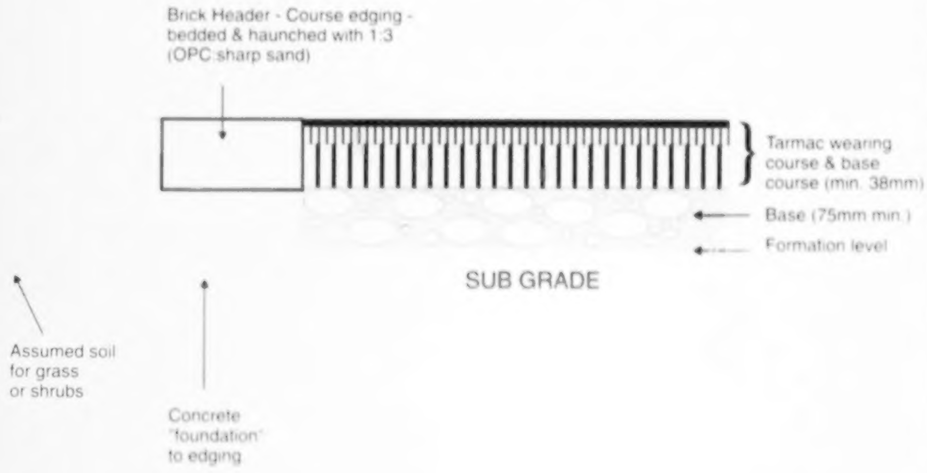
Cutting and removing the tarmac

As a first step, the areas of tarmac to be removed should be marked out clearly on the ground with either paint or chalk. The operation of cutting the tarmac can then be carried out by the use of a hydraulically powered diamond disc cutter or an abrasive wheel cut-off saw to ensure that a clean-cut edge is left. The use of such cutting equipment is subject to the Abrasive Wheels Regulations Act 1970; advice about this should be obtainable from local authorities.

Tarmac consists of two layers, a wearing course and a base course, which are laid over a base of compacted roadstone or hardcore. This, in turn, is on top of the subgrade, i.e. the existing subsoil. (See section drawing below.) The thickness of the tarmac and the base will depend both on the type of underlying subsoil and on whether the tarmac was intended to take vehicular traffic. The total thickness of the tarmac and the base is likely to be between 115-230 mm. In extreme circumstances, such as poor subgrade or very heavy vehicular traffic, it could be up to 450 mm.

Before the tarmac can be removed both the top layers and the base have to be broken up into sections; a hydraulically powered breaker or hammer, commonly known as a jack hammer, is generally used for this operation. Alternatively, an electrical Kango or Bosch breaker can be used. Both can be hired on a weekly

Section through tarmac showing a hard edge


Brick Header - Course edging - bedded & haunched with 1:3 (OPC sharp sand)
Tarmac wearing course & base course (min. 38mm)
Base (75mm min.)
Formation level
SUB GRADE
Assumed soil for grass or shrubs
Concrete "foundation" to edging

Total thickness of tarmac and base likely to be between 115-230 mm thick. It could be up to 450 mm in extreme circumstances (poor sub grade or very heavy vehicular traffic).

basis. It is important that the operator wears ear defenders, in keeping with health and safety legislation, and the noise factor will need to be taken into consideration when planning the timing of the job.

A skip will probably be needed for collecting the tarmac spoil unless it can be loaded directly into the truck that will take it away. In either case it may be possible to hire a wheeled loader or a skid-steer loader as an alternative to loading it manually. Some schools have been fortunate enough to find a local builder willing to cart the spoil away at no charge in order to use it as hardcore.

Installing the new surface

Once the tarmac and its base have been removed the next stage will depend upon the type of surface required. In any case, if any of the tarmac is being retained then some form of edging will be needed to stabilise the cut edge and prevent it crumbling away. A brick edge is generally used, though some other form of kerb may be more appropriate, or the tarmac may butt up to a structure which acts as a kerb, such as a raised bed.

If the tarmac is to be replaced by an area of planting then it is likely that top soil will need to be imported. First a sample of the existing subgrade soil should be taken to find out the pH level, the texture and permeability, which will determine whether or not top soil is needed. It will also be affected by the type of planting to be carried out; for instance, for a wild-flower meadow a rich top soil would not be required.

Before the top soil is imported , it is recommended that the subgrade soil should first be rotovated to a minimum depth of 450mm to decompact it and help aeration and drainage. For grass, 100-150mm of top soil is recommended, herbaceous, ground cover planting and shrubs will need a recommended 450mm of top soil. For individual tree pits, a recommended minimum depth for top soil is 600mm. Before back filling with top soil, the subgrade should be broken up to at least the depth of a fork and ideally down to 400mm. There are British Standards set out for top soil quality and recommended soil depths for different situations.

In each case the figures refer to consolidated soil, i.e. soil that has been gently firmed and allowed to settle. It is advisable to obtain weed-free soil if possible or to treat it with a weedkiller as weeds appear.

Various other types of hard or soft surface may be substituted for tarmac. For all-weather surfacing the introduction of paving can make an interesting alternative, particularly if contrasting textures and colours are used. This also allows for easier integration of planted areas and raised beds, which can be combined in any number of ways according to individual requirements. Other possibilities are bark or rubber surfaces or the use of tiles to make a mosaic.

If a pond or mini nature reserve is being installed it may be useful to keep a small area of tarmac to provide a hard surface as a feeding and dust-bathing area for birds. In seating areas too it may be advantageous to retain a tarmac base to provide all-weather access. Whatever the requirements of your school, by varying the surfaces and keeping any existing features that work well, an attractive and stimulating environment can be achieved.

A variety of hard and soft surfaces can be used to replace tarmac. Here timber decking surrounds part of the pond, while the curved layout is carried through to the shrub border and outer wall.

Where to go next: sources of help and information

The following national organisations may be able to help.

Black Environment Network (BEN)
Regents Wharf, 8 All Saints St, London N1 9RL
0171 713 6161

British Trust for Conservation Volunteers (BTCV)
36 St Mary's Street, Wallingford, Oxon OXl0 0EU
01491 839766

Centre for Alternative Technology (CAT)
Machynlleth, Powys SY2O 9AZ
01654 702400

Common Ground
Seven Dials Warehouse, 44 Earlham Street, London WC2H 9LA
0171 379 3109

Council for Environmental Education (CEE)
School of Education, University of Reading, London Road,
Reading, Berks RGl 5AQ
01734 756061

English Nature
Northminster House, Peterborough PE1 lUA
01733 340345

Groundwork Foundation
85/87 Corwall Street, Birmingham B3 3BX
0121 236 8565

Henry Doubleday Research Association National Centre for Organic Gardening
Ryton on Dunsmore, Coventry CV8 3LG
01203 303517

Learning through Landscapes
3rd Floor, Southside, The Law Courts, Winchester, Hants SO23 9DL
01962 846258

National Association of Urban Studies (NAUS)
Lewis Cohen Urban Studies Centre, University of Brighton,
68 Grand Parade, Brighton BN2 2JY
01273 542660

National Play Information Centre (NPIC)
359-361 Euston Road, London NWl 3AL
0171383 5455

Royal Society for the Protection of Birds (RSPB)
The Lodge, Sandy, Beds SGl9 2DL
01767 680551

The Tree Council
51 Catherine Place, London SW1E 6DY
0171 828 9928

Tidy Britain Group
The Pier, Wigan WN3 4EX
01942 824620

Schools Industry Curriculum Partnership (SCIP)
Centre for Education & Industry, University of Warwick,
Coventry CV4 7AL
01203 524371

Wildlife WATCH/ The Wildlife Trusts
The Green, Witham Park, Waterside South, Lincoln LN5 7JR
01522 544400

World Wide Fund for Nature (WWF)
Panda House, Weyside Park, Godalming, Surrey GU7 lXR
01483 426444

The following books contain information which may be useful.

Bright ideas: a green school
Author: Colin Harris
Published by: Scholastic

Bright ideas in the outdoor classroom
Authors: Brian Keaney and Bill Lucas
Published by: Scholastic/Southgate

Building green - A guide to using plants on roofs, walls and pavements
Authors: Jacklyn Johnston and John Newton
Published by: London Ecology Unit

"Can I stay in today Miss?"
Authors: Carol Ross & Amanda Ryan
Published by: Trentham Books

Design Technology and the built environment
Authors: Ian Record and Nigel Frost
Published by: The Building Experiences Trust

Enviroscope
Author: Chris Luxton
Published by: The Richmond Publishing Co.

Esso schoolwatch - From survey to getting started
Authors: Bill Lucas and Joan Wood
Published by: Learning through Landscapes

Esso Schoolwatch - initial survey
Authors: Joan Wood, Bill Lucas and Marcus Grace
Published by: Learning through Landscapes

Exploring our environment: FSC occasional publication No.25 (TRIAL)
Authors: Susan Haines, Jacqueline Zammit, Jennie Wallace-Hadrill et al
Published by: FSC Publications

From giant sweets to sponge floors
Authors: Brian Stoker and Tina Brawn
Published by: Cheshire County Council

Gardening for wildlife
Author: Not specified
Published by: Urban Wildlife Trust

Ground rules
Author: Liz Court
Published by: Community Design for Gwent

Grounds for examination
Authors: Jane Young, Bill Lucas and Merrick Denton-Thompson
Published by: Learning through Landscapes/Southgate

Making the playground: A Key Stage 2 project in Design Technology, Art, English and Mathematics
Author: Eileen Adams
Published by: Trentham Books

Multicultural gardening
Author: Mike Prime
Published by: Lewisham Leisure, Nature Conservation Section

Murals in schools
Authors: Carol Kenna and Steve Lobb
Published by: Greenwich Mural Workshop

People, plants and places
Author: Julian Agyeman
Published by: Learning through Landscapes/Southgate

Play, playtime and playgrounds
Author: Wendy Titman
Published by: Learning through Landscapes/Southgate

Rooted in stone
Author: Oliver Gilbert
Published by: English Nature

Special places; special people
Author: Wendy Titman
Published by: World Wide Fund for Nature/Learning through Landscapes

The health promoting playground
Authors: Health Promotion Wales and The Sports Council for Wales
Published by: Health Promotion Wales

The outdoor classroom
Authors: Brian Billimore, John Brooke, Rupert Booth and Keith Funnell, based on LTL's initial research
Published by: Her Majesty's Stationery Office

The urban environment
Authors: Prue Poulton and Gillian Symons
Published by: A & C Black

Urban conservation pack
Author: Not specified
Published by: Ulster Wildlife Trust

BT/LTL URBAN CHALLENGE WINNING SCHEMES

PHASE 1

Broadwood Infants School	Newcastle
Calshot Junior School, Great Barr	Birmingham
George Spicer Primary School, Enfield	London
Golden Hillock Secondary School, Sparkhill	Birmingham
Hardwick Junior School	Derby
Hazelwood Infant and Junior School, Enfield	London
Heathcote Secondary School, Waltham Forest	London
Northern Ireland Consortium of Primary Schools	Belfast
Park Place Nursery School	Dundee
Plumcroft Primary School, Greenwich	London
Sandfield Primary School	Guildford
Reading Girls' School	Reading
St John's First School	Southampton
St Werburgh's Park Nursery School, St Pauls	Bristol
Stuart Road Primary School	Plymouth
Three Crowns Special School	Walsall

PHASE 2

Avenue First and Middle School	Norwich
The Clare School	Norwich
Dunalley County Primary School	Cheltenham
Goodrich Primary School, E. Dulwich	London
Haimo Primary School, Greenwich	London
The Hyde Infant School, Barnet	London
Langley County Primary School	Manchester
Moordown St John's Primary School	Bournemouth
Northicote High School	Wolverhampton
Radnor Primary School & Ysgol Gymraeg Treganna School	Cardiff
Stanley Grove Infant School	Manchester
Stocksfield Avenue Primary School	Newcastle
Upper Wortley Primary School	Leeds
Victoria Park Infant School	Bristol
Yardley Infant School	Birmingham

PHASE 3

Aberdare Comprehensive	Aberdare
Brookhouse Primary School	Blackburn
Burton Road Primary School	Barnsley
Cheviot Infant School	Newcastle
Dashwood Primary School	Banbury
Doncaster Road Primary School	Barnsley
East Prescott Nursery School	Liverpool
George Spicer Primary School, Enfield	London
Leigh County Infant School	Leigh-on-Sea
Moselle Upper School, Haringey	London
Raglan Primary School, Bromley	London
Royston Comprehensive	Barnsley
St Benedicts Infant School	Birmingham
St Giles Special School	Nottingham
Wimbledon Park First	London
Yerbury Primary School, Islington	London

THE CHALLENGE OF THE URBAN SCHOOL SITE

This book will inspire and support all those working in urban areas to get the best out of their school's grounds.

Drawing on the experiences of successful schools in the BT/LTL Urban Challenge Award Scheme, LTL has gathered together essential information for teachers, parents and community organisations:

- Practical advice in greening schools, multi-cultural issues, the organisation of limited space, seating, shelter, arts, vandalism and removing tarmac.
- Detailed case studies.
- Sources of help and information
- Extensive colour photographs

URBAN CHALLENGE

Helping young people to transform their school grounds

School awards available up to £2,000

A campaign from Learning through Landscapes

BEST COPY AVAILABLE

Learning through LANDSCAPES

Printed on paper made from a sustainable source.
Produced with support from the Department of the Environment
under the Environmental Action Fund.

Distributed in North America By:
The Green Brick Road
429 Danforth Ave., Ste.#408
Toronto, ON, Canada M4K 1P1
1-800-473-3638